ORDER NO. VRD9608M123

Service Manual

Simplified

Video Cassette Recorder

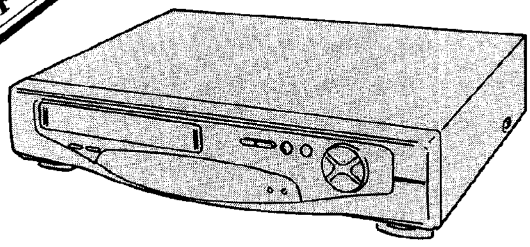
Panasonic VHS

PAL/NTSC

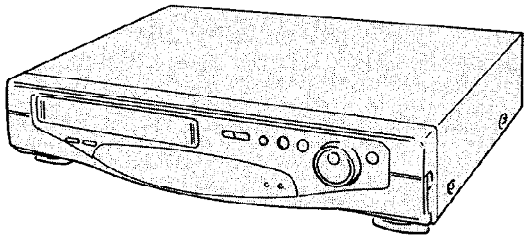
Hi-Fi HQ

NV-HD600MK2A
NV-HD650MK2A

K-MECHANISM



NV-HD600MK2A



NV-HD650MK2A

SPECIFICATIONS

ITEM	SPECIFICATION	
POWER	SOURCE: 240V AC 50/60Hz	
	CONSUMPTION: 19 watts (NV-HD600MK2A) 23 watts (NV-HD650MK2A)	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL/NTSC	
TV TUNER SYSTEM	VHF I: CH0~CH5 (PAL B) VHF III: CH5A~CH12 (PAL B) UHF: CH21~CH69 (PAL G) 75Ω terminated	
RF OUT SYSTEM	NV-HD600MK2A	VHF: CH0/1 (PAL B) 73±3dBμ, 75Ω terminated
	NV-HD650MK2A	UHF: CH37±6 (PAL B) 73±3dBμ, 75Ω terminated
VIDEO	HEADS: 4 rotary heads 1 pair for SP recording, playback and trick play (L-R heads) 1 pair for LP recording, playback and trick play (L′-R′ heads)	
	INPUT: VIDEO IN Connector (Phono type) 1.0Vp-p, 75Ω unbalanced	
	OUTPUT: VIDEO OUT Connector (Phono type) 1.0Vp-p, 75Ω unbalanced	
AUDIO	HEAD: 1 Stationary head (Normal Audio) 2 channels (Hi-Fi Sound-Stereo)	

ITEM	SPECIFICATION
AUDIO	INPUT: AUDIO IN Connector (Phono type) More than −10dBV (316mV), more than 47kΩ MICROPHONE JACK (NV-HD650MK2A) −70dBV
	OUTPUT: AUDIO OUT Connector (Phono type) −8dBV (400mV), less than 1kΩ
TAPE FORMAT	VHS Cassette tape (Tape width 12.7mm)
TAPE SPEED	SP: 23.39mm/s LP: 11.695mm/s Record/Playback Time: SP: 4 hours with 240min. type tape LP: 8 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
OPERATING TEMPERATURE	5°C−40°C
OPERATING HUMIDITY	35%−80%
DIMENSIONS	430(W)×91(H)×310(D) mm (NV-HD600MK2A) 430(W)×91(H)×312(D) mm (NV-HD650MK2A)
WEIGHT	4.6kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red Remote Controller 1 pc. AC Mains Lead 1 pc. Audio Cables (NV-HD650MK2A)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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⚠ WARNING
This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This service manual contains technical informations which will help service personnel to understand and service the VHS Video Cassette Recorder NV-HD600MK2A, NV-HD650MK2A.
Since this model has been developed from NV-HD600A, NV-HD650A this manual does not cover the same part which is already described in the service manual for NV-HD600A, NV-HD650A. Therefore, when servicing, refer to the descriptions in the one for NV-HD600A, NV-HD650A Order No. VRD9507M129, VRD9511M151.

CONTENTS

1. COMPARISON CHART 1
2. OSD PACK SCHEMATIC DIAGRAM (NV-HD600MK2A) 3
3. OSD PACK C.B.A. (NV-HD600MK2A) 5
4. MAIN C.B.A. (NV-HD600MK2A) 6
5. POWER SUPPLY SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A) 9
6. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A) 12
7. RF SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A) 15
8. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A) 19
9. TIMER C.B.A. (NV-HD600MK2A) 23
10. TIMER SCHEMATIC DIAGRAM (NV-HD600MK2A) 27
11. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM (NV-HD600MK2A) 30
12. LUMINANCE & CHROMINANCE PACK C.B.A. (NV-HD600MK2A) 33
13. LUMINANCE & CHROMINANCE PACK C.B.A. (NV-HD650MK2A) 35
14. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM (NV-HD650MK2A) 37
15. TIMER & OPERATION SCHEMATIC DIAGRAM (NV-HD650MK2A) 41
16. TIMER C.B.A. & OPERATION C.B.A. (NV-HD650MK2A) 45
17. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-HD650MK2A) 50
18. INPUT/OUTPUT PACK C.B.A. (NV-HD650MK2A) 53
19. MAIN C.B.A. (NV-HD650MK2A) 55
20. POWER SUPPLY SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A) 58
21. RF SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A) 61
22. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A) 65
23. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A) 69
24. ELECTRICAL REPLACEMENT PARTS LIST 73

1. COMPARISON CHART

These charts show the difference between the basic model NV-HD600A, NV-HD650A and the new model NV-HD600MK2A, NV-HD650MK2A.

Note: IMPORTANT SAFETY NOTICE
Parts indicated by the mark <!> have the special safety characteristics.
When replacing any of these parts, use only the same type.

NV-HD600MK2A Mechanical Replacement Parts (A)=Added, (C)=Changed, (D)=Deleted

Ref. No.	NV-HD600A	NV-HD600MK2A	Pieces	Parts Name & Descriptions	Remarks
201 (3)	VYP5748	VYP6355	1	FRONT PANEL UNIT	(C)
300 (4)	VQT5859	VQT6767	1	OPERATING INSTRUCTIONS (ENGLISH)	(C) <!>
315 (4)	VPG7802	VPG8788	1	PACKING CASE	(C)

NV-HD650MK2A Mechanical Replacement Parts (A)=Added, (C)=Changed, (D)=Deleted

Ref. No.	NV-HD650A	NV-HD650MK2A	Pieces	Parts Name & Descriptions	Remarks
201 (3)	VYP6125	VYP6356	1	FRONT PANEL UNIT	(C)
300 (4)	VQT5984	VQT6768	1	OPERATING INSTRUCTIONS (ENGLISH)	(C) <!>
315 (4)	VPG8367	VPG8789	1	PACKING CASE	(C)

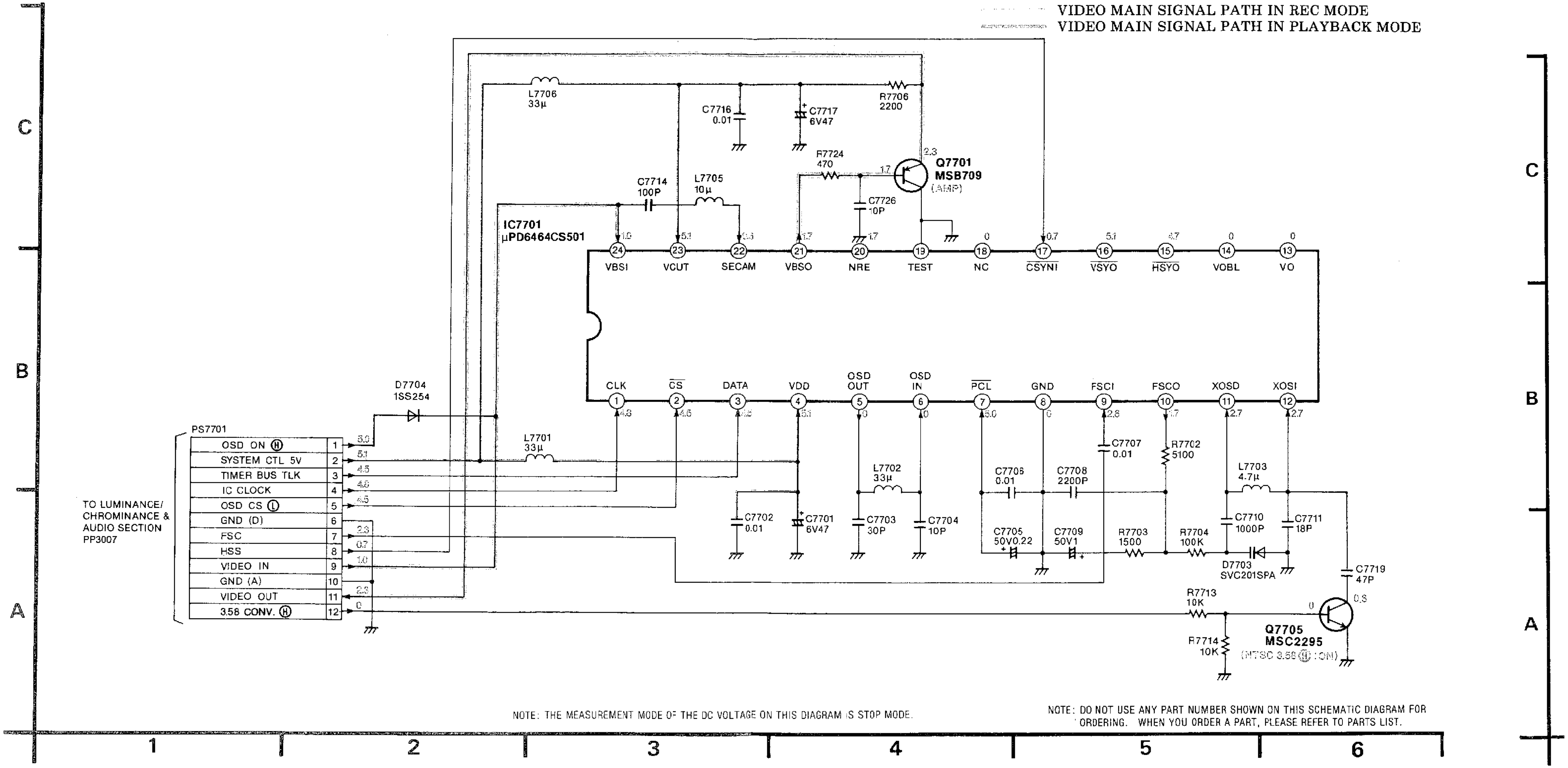
NV-HD600MK2A Electrical Replacement Parts (A)=Added, (C)=Changed, (D)=Deleted

Ref. No.	NV-HD600A	NV-HD600MK2A	Pieces	Parts Name & Descriptions	Remarks
	VEP06977F	VEP06977P	1	MAIN C.B.A.	(C)
	VEP03B22C	VEP03B22P	1	LUMINANCE & CHROMINANCE PACK C.B.A.	(C)
	VEP06979B	VEP06979A	1	OSD PACK C.B.A.	(C)
	VEP07772J	VEP07772X	1	TIMER C.B.A.	(C)

NV-HD650MK2A Electrical Replacement Parts (A)=Added, (C)=Changed, (D)=Deleted

Ref. No.	NV-HD650A	NV-HD650MK2A	Pieces	Parts Name & Descriptions	Remarks
	VEP06980P	VEP06980AA	1	MAIN C.B.A.	(C)
	VEP03D27G	VEP03D27M	1	LUMINANCE & CHROMINANCE PACK C.B.A.	(C)
	VEP07773D	VEP07773N	1	TIMER C.B.A.	(C)
	VEP03B27F	VEP03B27H	1	INPUT/OUTPUT C.B.A.	(C)

2. OSD PACK SCHEMATIC DIAGRAM (NV-HD600MK2A)


VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
C
B
A
1
2
3
4
5
6
IC7701
μPD6464CS501
VBSI
VCUT
SECAM
VBSO
NRE
TEST
NC
CSYNI
VSYO
HSYO
VOBL
VO
CLK
CS
DATA
VDD
OSD OUT
OSD IN
PCL
GND
FSCI
FSCO
XOSD
XOSI
L7706 33μ
C7716 0.01
C7717 6V47
R7706 2200
R7724 470
Q7701 MSB709 (AMP)
C7726 10P
C7714 100P
L7705 10μ
D7704 1SS254
L7701 33μ
PS7701
OSD ON Ⓗ
SYSTEM CTL 5V
TIMER BUS TLK
IC CLOCK
OSD CS Ⓛ
GND (D)
FSC
HSS
VIDEO IN
GND (A)
VIDEO OUT
3.58 CONV. Ⓗ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3007
C7702 0.01
C7701 6V47
L7702 33μ
C7703 30P
C7704 10P
C7706 0.01
C7708 2200P
C7705 50V0.22
C7709 50V1
C7707 0.01
R7702 5100
R7703 1500
R7704 100K
L7703 4.7μ
C7710 1000P
C7711 18P
D7703 SVC201SPA
C7719 47P
R7713 10K
R7714 10K
Q7705 MSC2295 (NTSC 3.58 Ⓗ : ON)

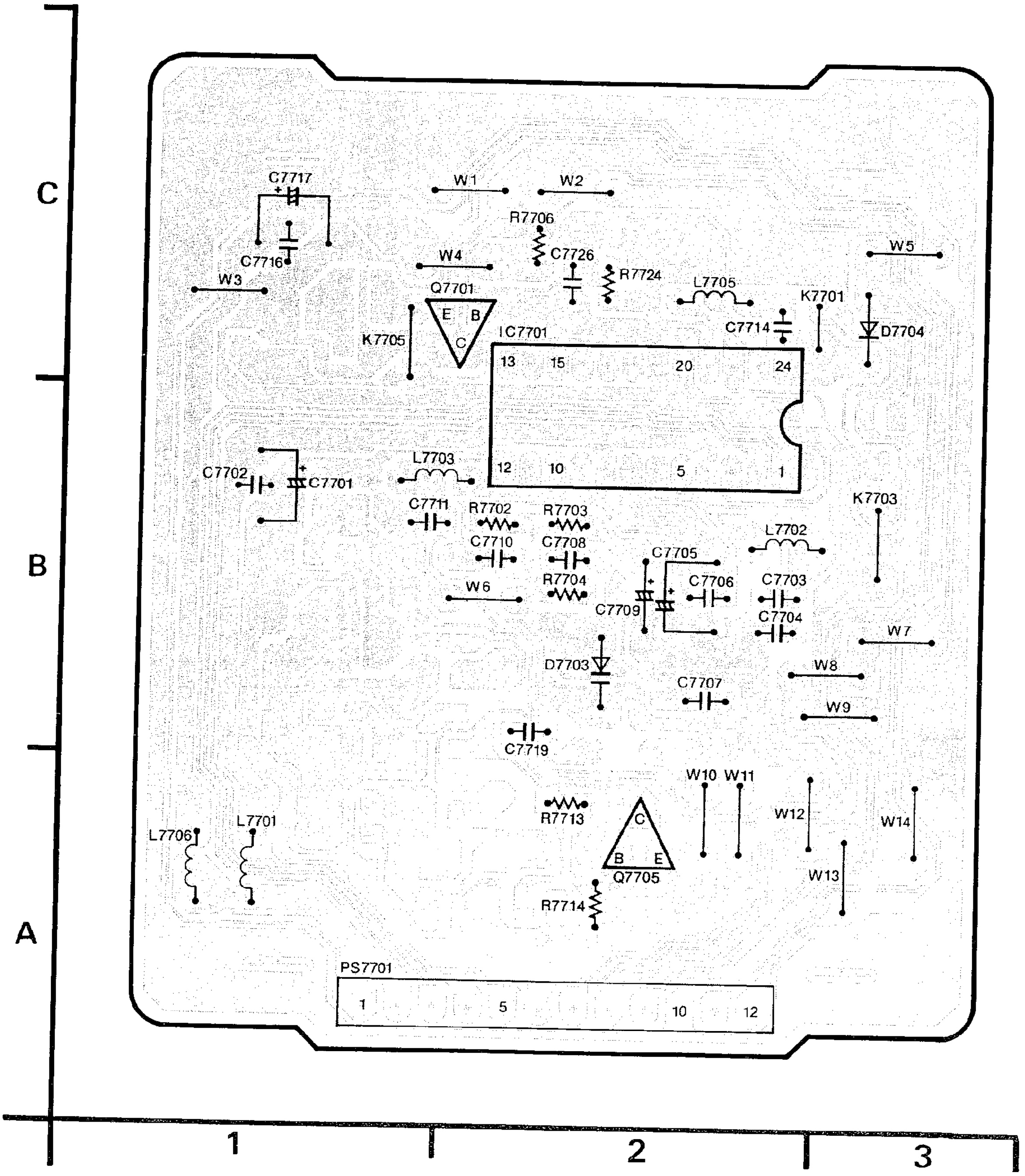
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

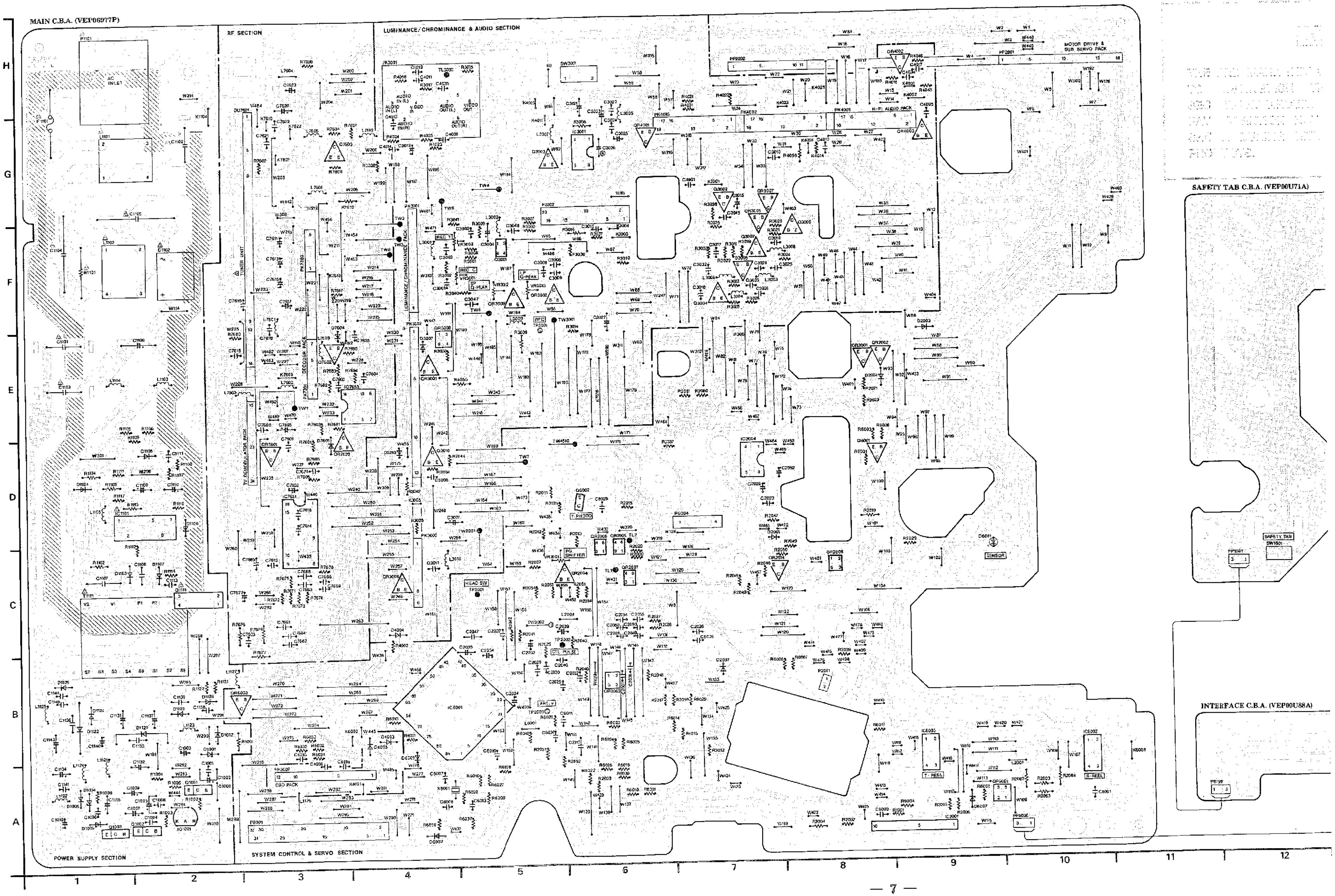
3. OSD PACK C.B.A. (VEP06979A: NV-HD600MK2A)

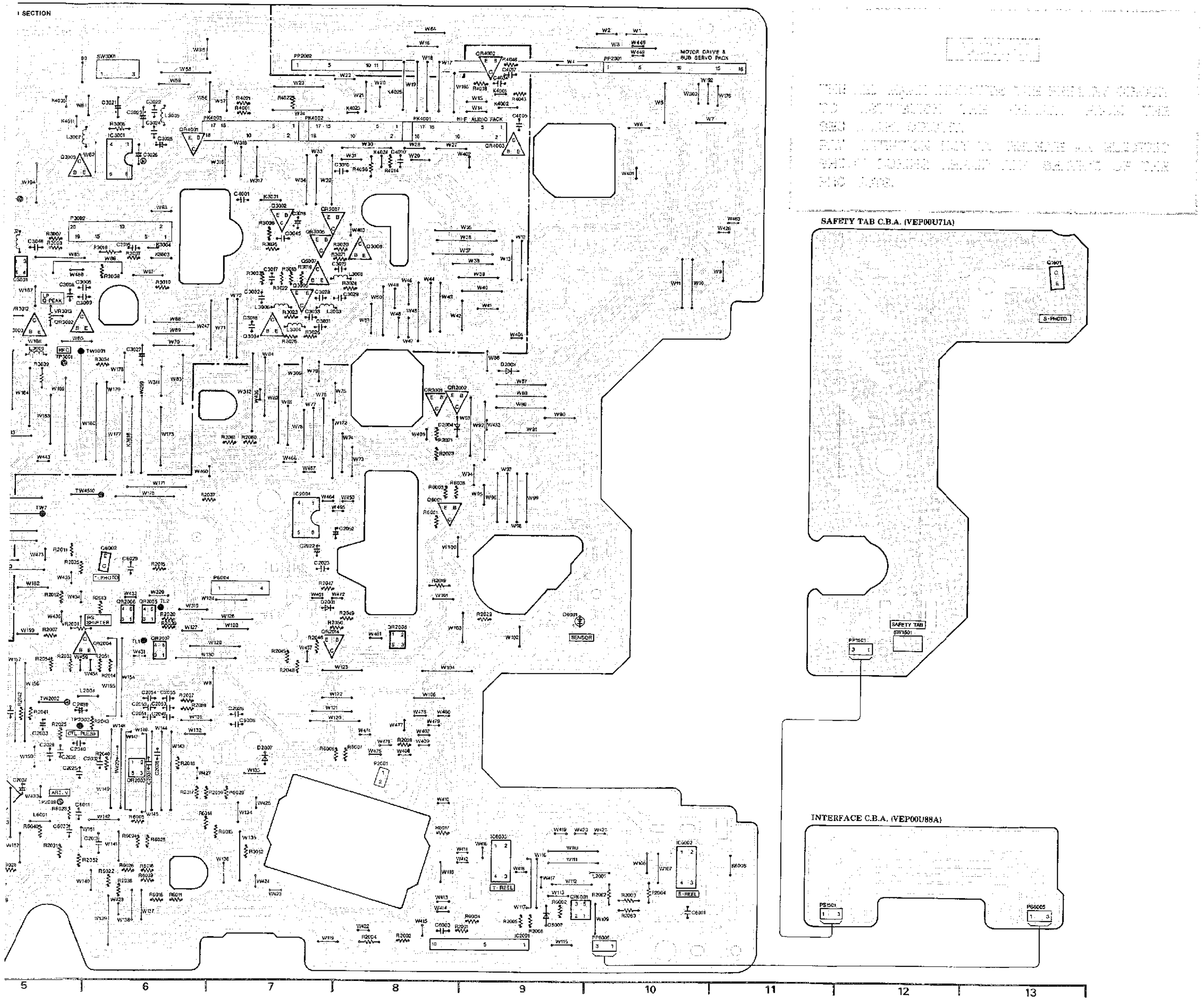
OSD PACK C.B.A.	
Transistor	
Q7701	C-2
Q7705	A-2
Integrated Circuit	
IC7701	C-2
Connector	
PS7701	A-1

ADDRESS INFORMATION


C
B
A
1
2
3
C7717
C7716
W3
W1
W2
R7706
W4
C7726
R7724
L7705
K7701
W5
Q7701
E
B
C
K7705
IC7701
13
15
20
24
12
10
5
1
C7714
D7704
C7702
C7701
L7703
C7711
R7702
R7703
C7710
C7708
K7703
L7702
C7705
C7706
C7703
W6
R7704
C7709
C7704
W7
D7703
W8
C7707
W9
C7719
W10
W11
W12
W14
R7713
L7706
L7701
Q7705
W13
R7714
PS7701
1
5
10
12

4. MAIN C B.A. (VEP06977P: NV-HD600MK2A)


MAIN C.B.A. (VEP06977P)
RF SECTION
LUMINANCE/CHROMINANCE & AUDIO SECTION
MOTOR DRIVE & SUB SERVO PACK
SAFETY TAB C.B.A. (VEP00U71A)
INTERFACE C.B.A. (VEP00U88A)
POWER SUPPLY SECTION
SYSTEM CONTROL & SERVO SECTION
AC INLET
TV DEMODULATION PACK
DECODER PACK
LUMINANCE/CHROMINANCE PACK
HI-FI AUDIO PACK
OSD PACK
IC6001
T. REEL
S. REEL
SENSOR
SAFETY TAB
HEAD SW
FG SHIFTER
T. PHOTO
CTL PULSE
REC CTL
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12


SECTION
MOTOR DRIVE & SUB SERVO PACK
HI-FI AUDIO PACK
SAFETY TAB C.B.A. (VEP00U71A)
S-PHOTO
SAFETY TAB
INTERFACE C.B.A. (VEP00U88A)
SENSOR
T-REEL
S-REEL
PG SHIFTER
CTL PULSE
5
6
7
8
9
10
11
12
13

POWER SUPPLY SECTION	
Transistor	
Q1001	A-2
Q1002	A-2
Q1003	A-1
Q1101	C-2
Integrated Circuit	
IC1001	A-2
IC1101	D-2

ADDRESS INFORMATION

LUMINANCE/ CHROMINANCE & AUDIO SECTION	
Transistor	
Q3001	F-5
Q3002	G-7
Q3003	G-5
Q3004	F-7
Q3005	F-7
Q3006	F-8
Q3007	F-7
Q3010	D-4
Transistor & Resistor	
QR3001	E-4
QR3002	F-5
QR3003	F-5
QR3005	F-7
QR3006	C-3
QR3007	G-7
QR3008	E-4
QR4001	G-6
QR4002	H-9
QR4003	G-9
Integrated Circuit	
IC3001	G-6
Test Point	
TL1	C-6
TL2	C-6
TL3002	H-4
TP3001	E-5
TW4	Q-5
TW5	Q-4
TW6	F-5
TW3001	F-5
TW4510	D-5
Adjustment	
VR3001	F-5
VR3002	F-5
VR3012	F-5
VR3013	F-5
Connector	
P3002	G-6
PK3001	F-4
PK3002	E-4
PK3003	C-4
PP3007	A-3
PK4001	G-8
PK4002	G-7
PK4003	G-7

ADDRESS INFORMATION

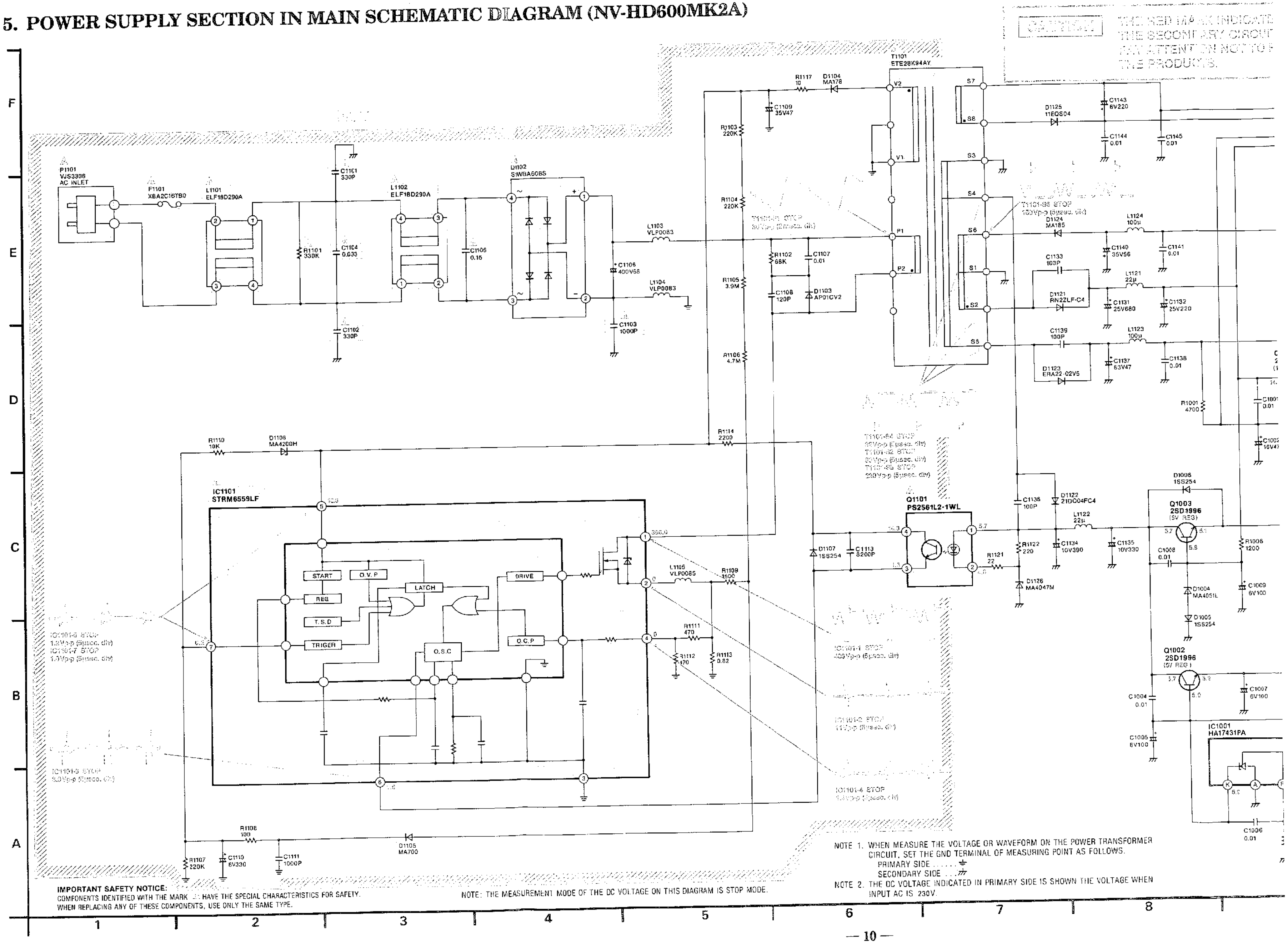
SYSTEM CONTROL & SERVO SECTION	
Transistor	
Q1501	F-13
Q6001	D-8
Q6002	D-6
Transistor & Resistor	
QR2001	E-8
QR2002	E-8
QR2003	B-6
QR2004	C-5
QR2005	C-6
QR2006	C-6
QR2007	C-6
QR2008	C-8
QR2014	C-7
QR6001	A-9
QR6003	B-3
Integrated Circuit	
IC2001	A-9
IC2004	D-7
IC6001	B-4
IC6002	B-10
IC6003	B-9
Test Point	
TP2001	C-5
TP2002	C-5
TP2009	B-5
TW7	D-5
TW2001	D-5
TW2002	C-5
Adjustment	
VR2001	C-5
Connector	
P2001	B-8
P6001	A-3
P6004	D-7
PP1501	C-12
PP2001	H-10
PP2002	H-7
PP6005	A-10
PS1501	A-11
PS6005	A-13

ADDRESS INFORMATION

RF SECTION	
Transistor	
Q7602	E-3
Q7603	G-3
Transistor & Resistor	
QR7601	D-3
QR7606	D-3
Integrated Circuit	
IC7651	D-3
IC7653	E-4
Test Point	
TW1	E-3
TW2	G-2
TW3	F-4
TW8	F-4
Connector	
DU7601	G-3
PK7301	E-3
PK7302	F-3

ADDRESS INFORMATION

5. POWER SUPPLY SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A)


F
E
D
C
B
A
1
2
3
4
5
6
7
8
P1101
VJS3306
AC INLET
F1101
XBA2C16TB0
L1101
ELF18D290A
R1101
330K
C1101
330P
C1104
0.033
C1102
330P
L1102
ELF18D290A
C1105
0.15
D1102
S1WBA60BS
C1106
400V68
C1103
1000P
L1103
VLP0083
L1104
VLP0083
R1103
220K
R1104
220K
R1105
3.9M
R1106
4.7M
R1117
10
D1104
MA178
C1109
35V47
R1102
68K
C1107
0.01
C1108
120P
D1103
AP01CV2
T1101
ETE28K94AY
V2
V1
P1
P2
S7
S8
S3
S4
S6
S1
S2
S5
D1125
11EQS04
C1143
6V220
C1144
0.01
C1145
0.01
D1124
MA185
L1124
100µ
C1140
35V56
C1141
0.01
C1133
100P
L1121
22µ
D1121
RN2ZLF-C4
C1131
25V680
C1132
25V220
C1139
100P
L1123
100µ
C1137
63V47
C1138
0.01
D1123
ERA22-02V5
R1001
4700
R1110
10K
D1106
MA4200H
R1114
2200
IC1101
STRM6559LF
START
O.V.P
LATCH
DRIVE
REG
T.S.D
TRIGER
O.S.C
O.C.P
L1105
VLP0085
R1109
1500
R1111
470
R1112
470
R1113
0.82
D1107
1SS254
C1113
8200P
Q1101
PS2561L2-1WL
R1121
22
C1136
100P
D1122
21DC04FC4
R1122
220
D1126
MA4047M
C1134
10V390
L1122
22µ
C1135
10V330
D1008
1SS254
Q1003
2SD1996
(5V REG)
C1008
0.01
R1008
1200
D1004
MA4051L
C1009
6V100
D1005
1SS254
Q1002
2SD1996
(5V REG)
C1004
0.01
C1007
6V100
C1005
6V100
IC1001
HA17431PA
C1006
0.01
R1108
100
D1105
MA700
R1107
220K
C1110
6V330
C1111
1000P
IC1101-6 STOP
IC1101-7 STOP
IC1101-5 STOP
IC1101-1 STOP
IC1101-2 STOP
IC1101-4 STOP
T1101-S6 STOP
T1101-S4 STOP
T1101-S2 STOP
T1101-S5 STOP

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

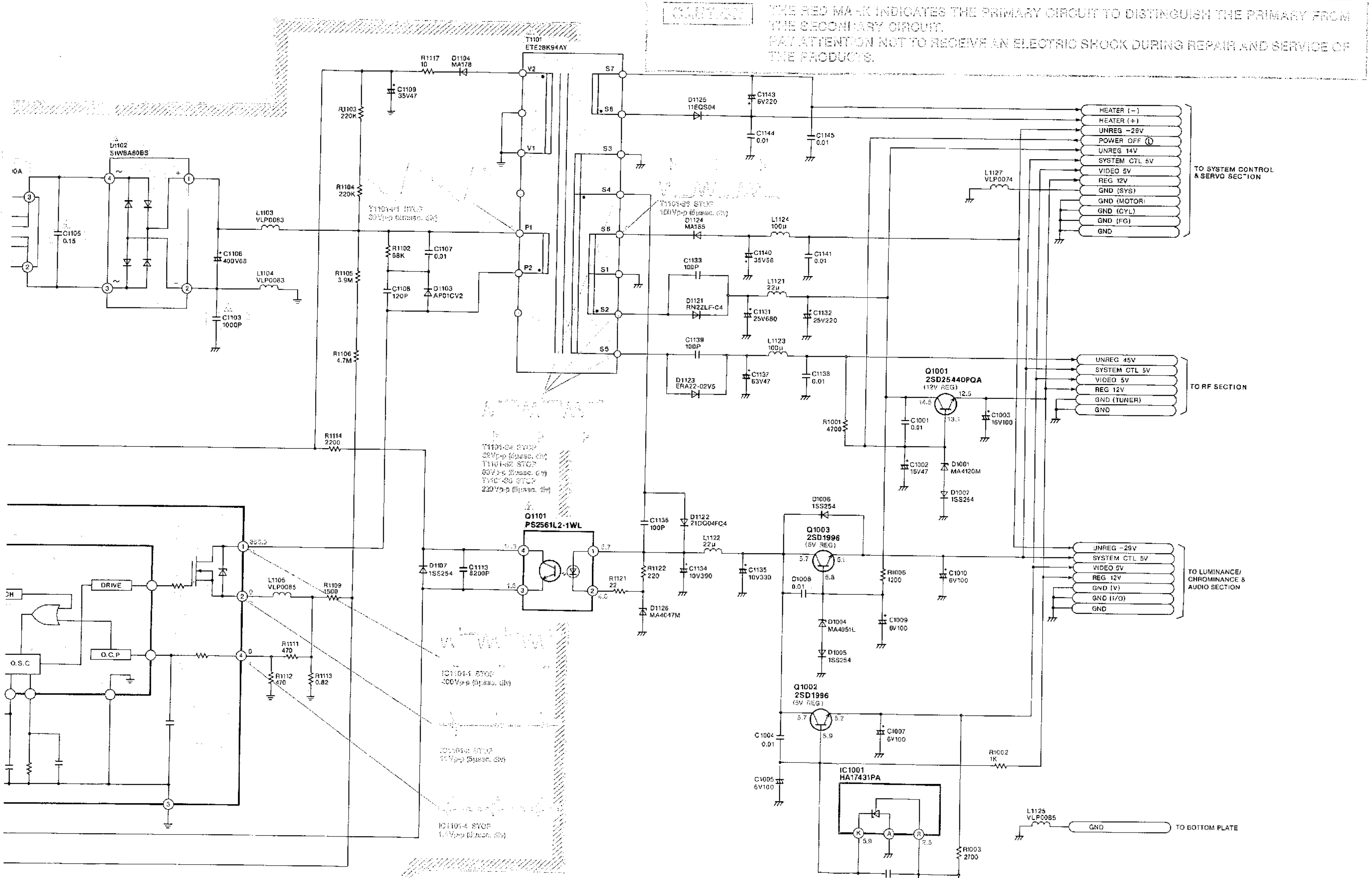
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE ...... ⏚
SECONDARY SIDE ... ⊥

NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 230V.

MATIC DIAGRAM (NV-HD600MK2A)

CAUTION THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.


T1101
ETE28K94AY
R1117 10
D1104 MA178
C1109 35V47
R1103 220K
R1104 220K
R1105 3.9M
R1106 4.7M
R1114 2200
D1102 S1WBA60BS
C1105 0.15
C1106 400V68
C1103 1000P
L1103 VLP0083
L1104 VLP0083
R1102 68K
C1107 0.01
C1108 120P
D1103 AP01CV2
V2
V1
P1
P2
S1
S2
S3
S4
S5
S6
S7
S8
T1101-V1 STOP
T1101-S7 STOP
T1101-S4 STOP
T1101-S2 STOP
T1101-S5 STOP
D1125 11EQS04
C1143 6V220
C1144 0.01
C1145 0.01
D1124 MA185
L1124 100μ
C1140 35V56
C1141 0.01
C1133 100P
D1121 RN2ZLF-C4
L1121 22μ
C1131 25V680
C1132 25V220
C1139 100P
L1123 100μ
D1123 ERA22-02V5
C1137 63V47
C1138 0.01
L1127 VLP0074
HEATER (−)
HEATER (+)
UNREG −29V
POWER OFF ①
UNREG 14V
SYSTEM CTL 5V
VIDEO 5V
REG 12V
GND (SYS)
GND (MOTOR)
GND (CYL)
GND (FG)
GND
TO SYSTEM CONTROL & SERVO SECTION
UNREG 45V
SYSTEM CTL 5V
VIDEO 5V
REG 12V
GND (TUNER)
GND
TO RF SECTION
Q1001 2SD2544OPQA (12V REG)
14.5
12.5
13.1
R1001 4700
C1001 0.01
C1003 16V100
C1002 16V47
D1001 MA4120M
D1002 1SS254
D1006 1SS254
Q1003 2SD1996 (5V REG)
5.7
6.1
5.8
R1006 1200
C1010 6V100
C1008 0.01
D1004 MA4051L
D1005 1SS254
C1009 6V100
UNREG −29V
SYSTEM CTL 5V
VIDEO 5V
REG 12V
GND (V)
GND (I/O)
GND
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
Q1002 2SD1996 (5V REG)
5.7
5.2
5.9
C1007 6V100
C1004 0.01
C1005 6V100
R1002 1K
IC1001 HA17431PA
K
A
R
5.8
2.5
R1003 2700
C1006 0.01
R1004 30K
R1005 2700
L1125 VLP0085
GND
TO BOTTOM PLATE
Q1101 PS2561L2-1WL
D1107 1SS254
C1113 8200P
R1121 22
C1136 100P
D1122 21DQ04FC4
L1122 22μ
R1122 220
C1134 10V390
C1135 10V330
D1126 MA4047M
DRIVE
O.C.P
O.S.C
L1105 VLP0085
R1109 1500
R1111 470
R1112 470
R1113 0.82
IC1101-1 STOP
IC1101-2 STOP
IC1101-4 STOP
4
5
6
7
8
9
10
11

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE ...... ⏚
SECONDARY SIDE .... ⏚

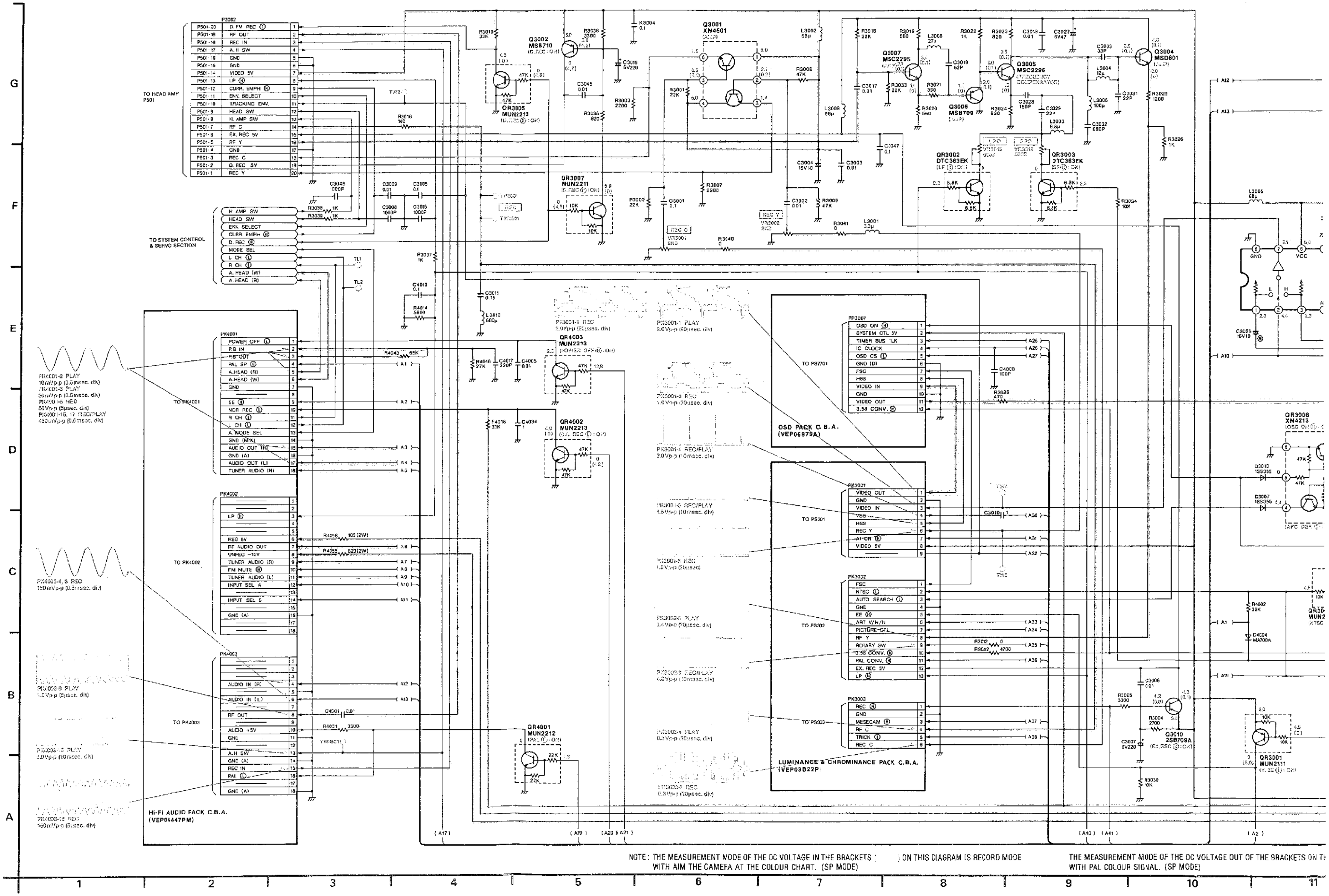
NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 230V.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

6. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A)

VIDEO MAIN SIGNAL PATH IN REC M
VIDEO MAIN SIGNAL PATH IN PLAYB


G
F
E
D
C
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10
11
P3002
TO HEAD AMP P501
TO SYSTEM CONTROL & SERVO SECTION
TO PK4001
TO PK4002
TO PK4003
Hi-Fi AUDIO PACK C.B.A. (VEP04447PM)
OSD PACK C.B.A. (VEP06979A)
TO PS7701
TO PS301
TO PS302
TO PS303
LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03B22P)
PP3007
PK3001
PK3002
PK3003
PK4001
PK4002
PK4003
Q3001 XN4501
Q3002 MSB710
Q3004 MSD601
Q3005 MSC2295
Q3006 MSB709
Q3007 MSC2295
QR3002 DTC363EK
QR3003 DTC363EK
QR3005 MUN2213
QR3007 MUN2211
QR4001 MUN2212
QR4002 MUN2213
QR4003 MUN2213
QR3008 XN4213
QR3001 MUN2111
Q3010 2SB709A
GND
VCC

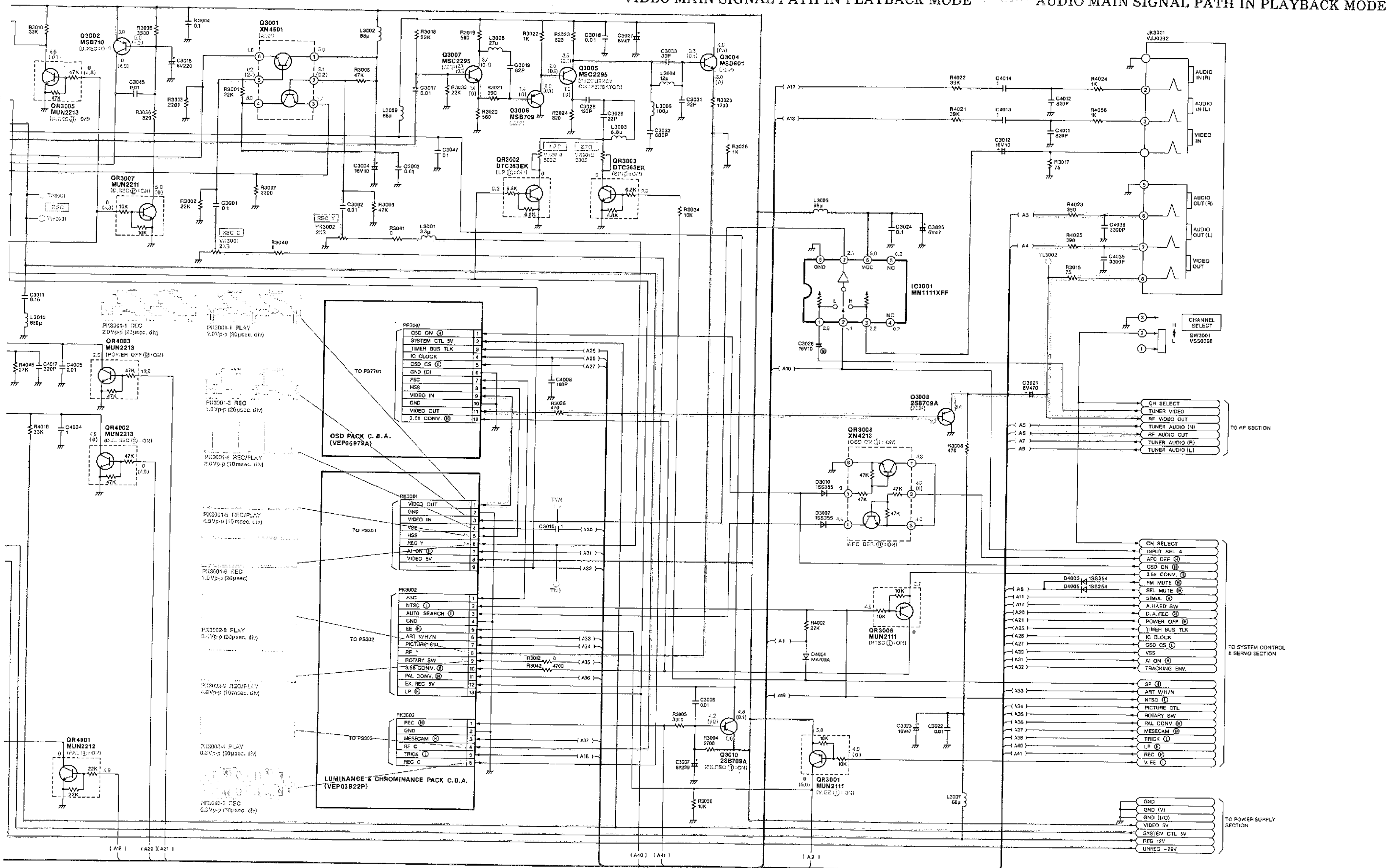
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON TH WITH PAL COLOUR SIGNAL. (SP MODE)

ON IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A)

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



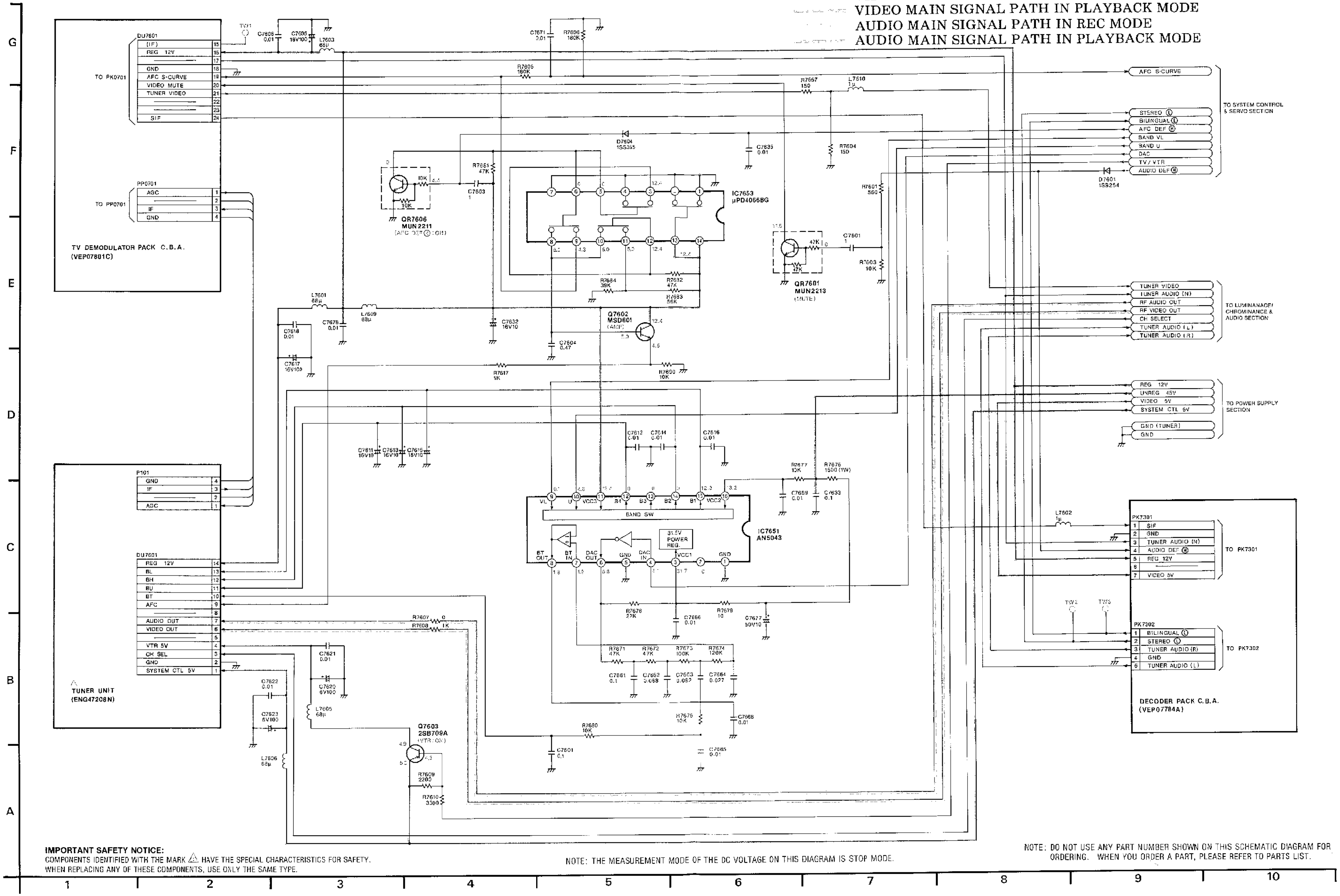
Q3002 MSB710
Q3001 XN4501
Q3007 MSC2295
Q3005 MSC2295
Q3004 MSD601
Q3006 MSB709
QR3005 MUN2213
QR3007 MUN2211
QR3002 DTC363EK
QR3003 DTC363EK
JK3001 VJJ0292
AUDIO IN (R)
AUDIO IN (L)
VIDEO IN
AUDIO OUT (R)
AUDIO OUT (L)
VIDEO OUT
IC3001 MN1111XFF
GND
VCC
NC
CHANNEL SELECT
SW3001 VSS0398
QR4003 MUN2213
QR4002 MUN2213
QR4001 MUN2212
PP3007
OSD ON
SYSTEM CTL 5V
TIMER BUS TLK
IC CLOCK
OSD CS
GND
FSC
NSS
VIDEO IN
VIDEO OUT
3.58 CONV.
TO PS7701
OSD PACK C.B.A. (VEP06979A)
PK3001
VIDEO OUT
GND
VIDEO IN
VSS
HSS
REC Y
AI ON
VIDEO 5V
TO PS301
PK3002
FSC
NTSC
AUTO SEARCH
GND
EE
ART V/H/N
PICTURE CTL
RF Y
ROTARY SW
3.58 CONV.
PAL CONV.
EX. REC 5V
LP
TO PS302
PK3003
REC
GND
MESECAM
RF C
TRICK
REC C
TO PS303
LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03B22P)
Q3009 2SB709A
QR3008 XN4213
AFC DET.
QR3006 MUN2111
Q3010 2SB709A
QR3001 MUN2111
CH SELECT
TUNER VIDEO
RF VIDEO OUT
TUNER AUDIO (N)
RF AUDIO OUT
TUNER AUDIO (R)
TUNER AUDIO (L)
TO RF SECTION
CH SELECT
INPUT SEL A
AFC DEF
OSD ON
3.58 CONV.
FM MUTE
SEL MUTE
SIMUL
A.HAED SW
D.A.REC
POWER OFF
TIMER BUS TLK
IC CLOCK
OSD CS
VSS
AI ON
TRACKING ENV.
TO SYSTEM CONTROL & SERVO SECTION
SP
ART V/H/N
NTSC
PICTURE CTL
ROTARY SW
PAL CONV
MESECAM
TRICK
LP
REC
V.EE
GND
GND (V)
GND (I/O)
VIDEO 5V
SYSTEM CTL 5V
REC 12V
UNREG -25V
TO POWER SUPPLY SECTION
5
6
7
8
9
10
11
12
13
14

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

7. RF SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A)


VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
G
F
E
D
C
B
A
1
2
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4
5
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8
9
10
DU7601
(IF)
REG 12V
GND
AFC S-CURVE
VIDEO MUTE
TUNER VIDEO
SIF
TO PK0701
PP0701
AGC
IF
GND
TO PP0701
TV DEMODULATOR PACK C.B.A.
(VEP07801C)
TW1
C7605 0.01
C7606 16V100
L7603 68μ
C7671 0.01
R7606 180K
R7605 180K
R7657 150
L7610 1μ
D7604 1SS355
C7635 0.01
R7604 150
QR7606
MUN2211
(AFC DEF Ⓡ : OH)
10K
R7651 47K
C7603 1
IC7653
μPD4066BG
R7601 560
QR7601
MUN2213
(MUTE)
47K
C7601 1
R7603 10K
D7601 1SS254
AFC S-CURVE
STEREO Ⓛ
BILINGUAL Ⓛ
AFC DEF Ⓡ
BAND VL
BAND U
DAC
TV / VTR
AUDIO DEF Ⓗ
TO SYSTEM CONTROL & SERVO SECTION
L7601 68μ
L7609 68μ
C7618 0.01
C7678 0.01
C7617 16V100
C7632 16V10
R7684 39K
R7612 47K
R7683 56K
Q7602
MSD601
(AMP)
C7604 0.47
R7617 1K
R7600 10K
TUNER VIDEO
TUNER AUDIO (N)
RF AUDIO OUT
RF VIDEO OUT
CH SELECT
TUNER AUDIO (L)
TUNER AUDIO (R)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
REG 12V
UNREG 45V
VIDEO 5V
SYSTEM CTL 5V
TO POWER SUPPLY SECTION
GND (TUNER)
GND
C7611 16V10
C7613 16V10
C7615 16V10
C7612 0.01
C7614 0.01
C7616 0.01
R7677 10K
R7676 1500 (1W)
C7659 0.01
C7633 0.1
P101
GND
IF
AGC
VL
U
VCC3
B4
B3
B2
B1
VCC2
BAND SW
BT OUT
BT IN
DAC OUT
GND
DAC IN
31.5V POWER REG.
VCC1
IC7651
AN5043
L7602 1μ
PK7301
SIF
GND
TUNER AUDIO (N)
AUDIO DEF Ⓗ
REG 12V
VIDEO 5V
TO PK7301
DU7601
REG 12V
BL
BH
BU
BT
AFC
AUDIO OUT
VIDEO OUT
VTR 5V
CH SEL
GND
SYSTEM CTL 5V
R7607 0
R7608 1K
R7678 27K
C7666 0.01
R7679 10
C7677 50V10
TW2
TW3
PK7302
BILINGUAL Ⓛ
STEREO Ⓛ
TUNER AUDIO (R)
GND
TUNER AUDIO (L)
TO PK7302
C7621 0.01
C7620 6V100
C7622 0.01
C7623 6V100
L7605 68μ
L7606 68μ
R7671 47K
R7672 4.7K
R7673 100K
R7674 120K
C7661 0.1
C7662 0.068
C7663 0.062
C7664 0.027
R7675 10K
C7668 0.01
C7665 0.01
R7680 10K
C7681 0.1
Q7603
2SB709A
(VTR : ON)
R7609 2200
R7610 3300
TUNER UNIT
(ENG47208N)
DECODER PACK C.B.A.
(VEP07784A)

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2001										IC2004									
MODE	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8		
STOP	0.1	13.8	13.8	0	0	0	7.2	9.0	0.1	0	2.5	2.5	2.5	0	2.7	2.7	3.7	13.2		
PLAY	0.1	13.7	13.7	0	0	0	7.3	8.9	0.2	0	2.5	2.5	2.5	0	2.7	2.7	2.2	13.1		
REC	0.1	13.7	13.7	0	0	0	7.3	8.9	0.1	0	2.5	2.5	2.5	0	2.7	2.7	4.6	13.0		
F.F	0.1	13.6	13.6	0	0	0	13.6	8.9	0.1	0	2.5	2.5	2.5	0	2.7	2.7	3.3	13.0		
REW	0.1	13.6	13.6	0	0	0	13.6	8.9	0.1	0	2.5	2.5	2.5	0	2.7	2.7	4.0	13.0		

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.9	0	0	4.9	4.9	0	0	4.7	5.0	5.0	0	0.1	0	0	2.5	4.9	4.7	0.1	0
PLAY	0	4.7	0	0	4.9	4.9	0	0	4.7	4.9	4.9	0	0.1	0	0	2.5	4.9	4.9	4.9	0
REC	0	4.9	0	0	4.9	4.9	0	0	0	4.9	4.9	0	0.1	0	0	2.5	4.9	4.9	4.9	0
F.F	0	4.9	4.9	0	3.3	4.9	0	0	3.2	4.9	4.9	0	0.1	0	0	2.5	4.9	4.6	2.5	0
REW	0	4.9	4.9	0	2.8	4.9	0	0	2.9	4.9	4.9	0	0.1	0	0	2.5	4.9	4.9	2.6	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	4.9	5.0	0.2	2.4	1.4	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	0	0	0	2.5	2.5	0	2.4
PLAY	4.9	4.9	2.5	2.4	3.2	2.5	2.5	2.5	0	2.5	2.6	2.5	4.9	0	0	0	2.5	2.5	0	2.7
REC	4.9	4.9	2.5	2.4	0.8	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	3.3	3.5	0	2.5	2.5	0	2.4
F.F	4.9	4.9	1.9	2.4	1.4	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	0	0	0	2.5	2.5	0	2.8
REW	4.9	4.9	2.0	2.4	2.7	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	0	0	0	2.5	2.5	0	2.4

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.4	5.0	1.3	3.5	0	4.7	0	0	4.9	0	4.7	4.9	4.9	4.9	4.9	0	0	0	0	4.9
PLAY	2.5	4.9	1.2	3.2	3.7	4.7	0	0	4.9	0	4.7	4.9	4.9	0.1	4.9	0	0	0	0	4.9
REC	2.5	4.9	1.4	3.6	0	4.9	0	0	4.9	0	4.7	4.9	4.9	0.1	4.9	0	0	0	0	4.9
F.F	2.4	4.9	1.4	3.5	0	4.9	0	0	4.9	0	4.7	4.9	4.9	0.1	0	0	0	0	0	4.9
REW	2.4	4.9	1.4	3.5	0	4.9	0	0	4.9	0	4.7	4.9	4.9	0.1	0	0	0	0	0	4.9

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	4.9	2.0	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	4.9	4.9	0	0	4.7	0	0	4.9	0
PLAY	4.9	0	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	0	0	0	0	4.7	0	4.9	4.9	0
REC	4.9	0	3.2	4.2	4.9	4.8	4.9	4.9	4.9	4.9	0	0	4.9	0	0	4.7	0	0	4.9	0
F.F	4.9	0	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	0	4.9	0	0	0	0	0	4.9	0
REW	4.9	4.9	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	4.9	4.9	0	0	0	0	0	4.9	0

REF. NO.	IC6001																			
MODE	81	82	83	84																
STOP	0	2.3	–	4.9																
PLAY	0	2.3	–	4.9																
REC	0	2.3	–	4.9																
F.F	0	2.3	–	4.9																
REW	0	2.3		4.9																

REF. NO.	IC6002										IC6003									
MODE	1	2	3	4							1	2	3	4						
STOP	1.2	0	4.9	0							2.3	1.2	0.1	0						
PLAY	1.2	0	4.9	0							2.3	1.2	4.9	0						
REC	1.2	0	4.9	0							2.3	1.2	4.9	0						
F.F	1.2	0	4.0	0							2.3	1.2	2.6	0						
REW	1.2	0	4.9	0							2.3	1.2	2.6	0						

SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q1501			Q6001			Q6002											
MODE	E	C		E	C	B	E	C										
STOP	0	4.7		5.0	−0.4	5.0	0	4.9										
PLAY	0	4.9		4.9	4.9	4.2	0	4.9										
REC	0	4.9		4.9	4.9	4.2	0	4.9										
F.F	0	4.6		4.9	4.9	4.2	0	4.9										
REW	0	4.9		4.9	4.9	4.2	0	4.9										

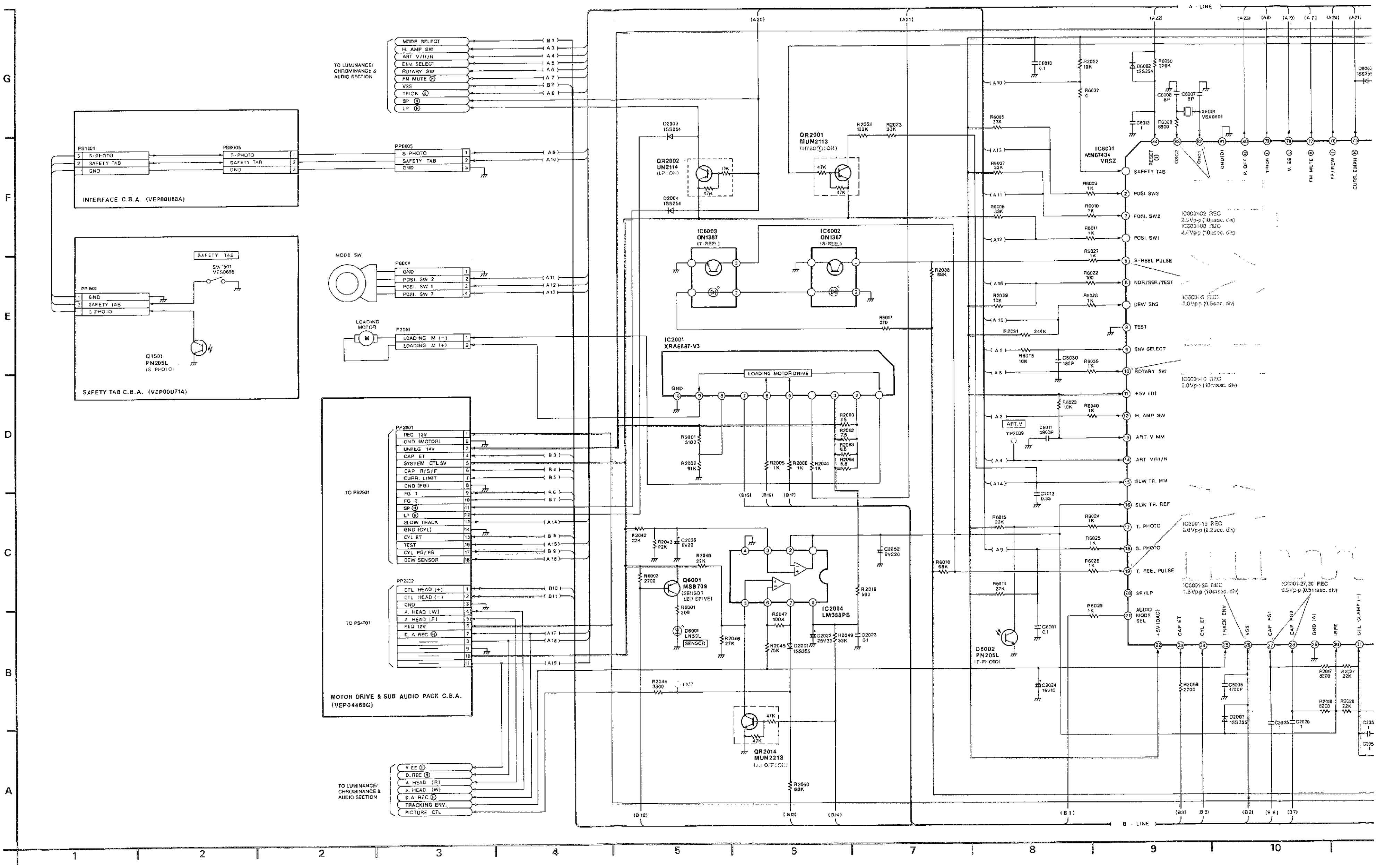
REF. NO.	QR2001			QR2002			QR2003						QR2004					
MODE	E	C	B	E	C	B	1	2	3	4	5		E	C	B			
STOP	5.0	0	5.0	5.0	0.2	4.9	0	0	3.6	0	3.6		5.0	4.7	5.0			
PLAY	5.0	0	5.0	4.9	0.2	4.9	0	0	3.6	0	3.6		5.0	4.7	5.0			
REC	5.0	0	5.0	4.9	0.2	4.9	0	0	3.6	0	3.6		5.0	4.7	5.0			
F.F	5.0	0	5.0	4.9	0.2	4.9	0	0.8	0	0	0		5.0	4.7	5.0			
REW	5.0	0	5.0	4.9	0.2	4.9	0	0.8	0	0	0		5.0	4.7	5.0			

REF. NO.	QR2005						QR2006						QR2007					
MODE	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
STOP	4.9	4.7	4.9	5.0	4.7	5.0	4.9	4.7	0	5.1	4.9	5.0	0	0	0	0	4.7	0
PLAY	4.9	4.7	4.9	5.0	4.7	5.0	4.9	4.7	4.9	5.1	4.9	5.0	0	4.7	0	0	4.7	0
REC	4.9	4.7	4.9	5.0	4.7	5.0	4.9	4.7	4.9	5.1	4.9	5.0	0	4.7	0	0	4.7	0
F.F	4.9	4.7	4.9	5.0	4.7	5.0	4.9	4.7	4.9	5.1	4.9	5.0	0	0	0	0	4.7	0
REW	4.9	4.7	4.9	5.0	4.7	5.0	4.9	4.9	4.9	5.1	4.9	5.0	0	4.9	0	0	4.9	0

REF. NO.	QR2008						QR2014			QR6001						QR6003		
MODE	1	2	3	4	5		E	C	B	1	2	3	4	5		E	C	B
STOP	0	0	4.2	0	4.2		0	2.7	0	0	0	4.9	0	4.7		0	12.9	0
PLAY	0	0	4.2	0	4.2		0	2.7	0	0	0	4.9	0	4.7		0	12.9	0
REC	0	0	4.2	0	4.2		0	2.7	0	0	0	4.9	0	4.7		0	12.9	0
F.F	0	0	4.2	0	4.2		0	2.7	0	13.6	7.3	0	0	0		0	12.9	0
REW	0	0	4.2	0	4.2		0	2.7	0	13.6	7.4	0	0	0		0	12.9	0

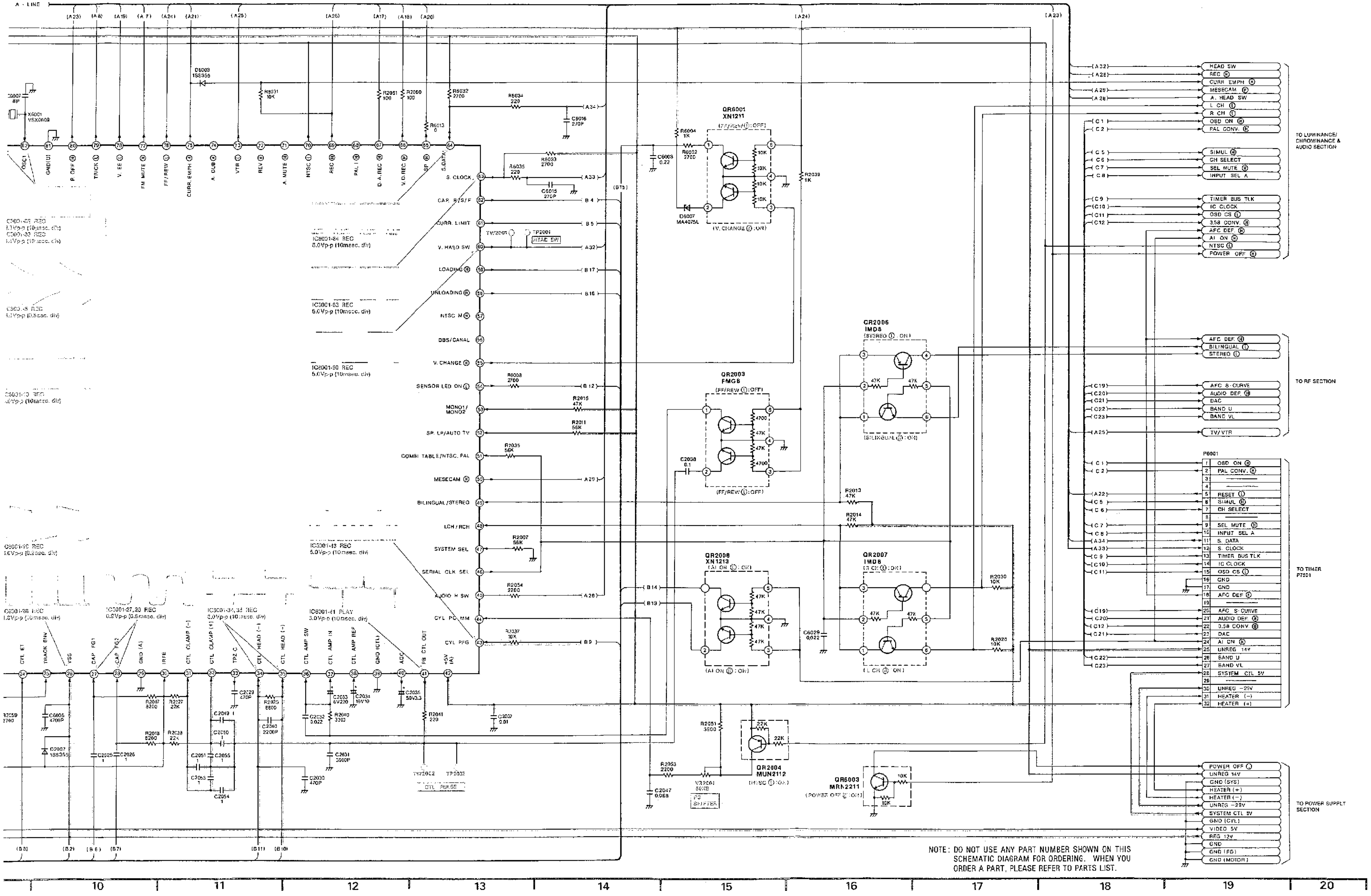
8. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD600MK2A)

CAPSTA



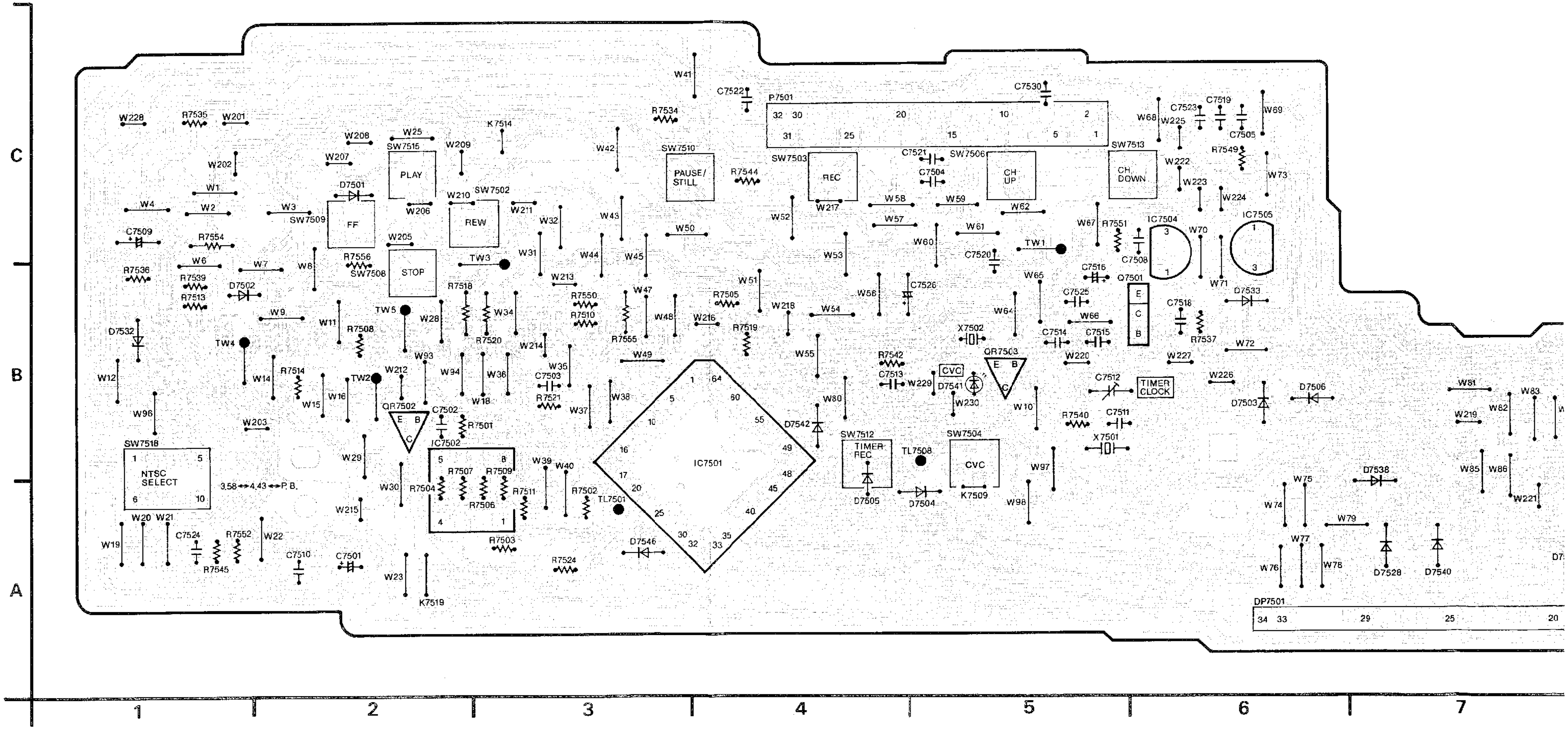
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
MODE SELECT
H. AMP SW
ART V/H/N
ENV. SELECT
ROTARY SW
FM MUTE
VSS
TRICK
SP
LP
INTERFACE C.B.A. (VEP00U88A)
PS1501
PS6005
PP6005
S-PHOTO
SAFETY TAB
GND
SAFETY TAB C.B.A. (VEP00U71A)
PP1501
SW1501
VES0695
Q1501
PN205L
(S-PHOTO)
MODE SW
P6004
POSI. SW 2
POSI. SW 1
POSI. SW 3
LOADING MOTOR
P2001
LOADING M (-)
LOADING M (+)
MOTOR DRIVE & SUB AUDIO PACK C.B.A. (VEP04469G)
TO PS2501
PP2001
REG 12V
GND (MOTOR)
UNREG 14V
CAP ET
SYSTEM CTL 5V
CAP R/S/F
CURR. LIMIT
GND (FG)
FG 1
FG 2
SLOW TRACK
GND (CYL)
CYL ET
TEST
CYL PG/FG
DEW SENSOR
TO PS4701
PP2002
CTL HEAD (+)
CTL HEAD (-)
A. HEAD (W)
A. HEAD (R)
REG 12V
E. A. REC
V EE
D. REC
D.A. REC
TRACKING ENV.
PICTURE CTL
QR2002
UN2114
QR2001
MUN2113
D2003
1SS254
D2004
1SS254
IC6003
ON1387
(T-REEL)
IC6002
ON1387
(S-REEL)
IC2001
XRA6887-V3
LOADING MOTOR DRIVE
Q6001
MSB709
(SENSOR LED DRIVE)
D6001
LN59L
SENSOR
IC2004
LM358PS
QR2014
MUN2213
Q6002
PN205L
(T-PHOTO)
IC6001
MN67434
VRSZ
X6001
VSX0604
SAFETY TAB
POSI. SW3
POSI. SW2
POSI. SW1
S. REEL PULSE
NOR/SER/TEST
DEW SNS
TEST
ENV SELECT
ROTARY SW
+5V (D)
H. AMP SW
ART. V MM
ART V/H/N
SLW TR. MM
SLW TR. REF
T. PHOTO
S. PHOTO
T. REEL PULSE
SP/LP
AUDIO MODE SEL
RESET
OSC2
OSC1
GND(D)
P. OFF
TRICK
V. EE
FM MUTE
FF/REW
CURR EMPH
+5V(DAC)
CAP ET
CYL ET
TRACK ENV
VSS
CAP FG1
CAP FG2
GND (A)
IREF
C/L CLAMP
A - LINE
B - LINE
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

CAPSTAN SERVO SPEED LOOP CAPSTAN SERVO PHASE LOOP CYLINDER SERVO SPEED LOOP CYLINDER SERVO PHASE LOOP


A - LINE
QR6001
XN1211
(FF/REV Ⓛ:OFF)
(V. CHANGE Ⓗ:ON)
QR2006
IMD8
(STEREO Ⓛ:ON)
(BILINGUAL Ⓛ:ON)
QR2003
FMG8
(FF/REV Ⓛ:OFF)
QR2008
XN1213
(AI ON Ⓗ:ON)
QR2007
IMD8
(L CH Ⓛ:ON)
QR2004
MUN2112
QR6003
MRN2211
S. CLOCK
CAP. RTS/F
CURR. LIMIT
V. HEAD SW
LOADING Ⓗ
UNLOADING Ⓗ
NTSC M Ⓗ
DBS/CANAL
V. CHANGE Ⓗ
SENSOR LED ON Ⓛ
MONO1/MONO2
SP. LP/AUTO TV
COMBI TABLE/NTSC, PAL
MESECAM Ⓗ
BILINGUAL/STEREO
LCH/RCH
SYSTEM SEL
SERIAL CLK SEL
AUDIO H SW
CYL PG MM
CYL PFG
HEAD SW
REC Ⓗ
CURR EMPH Ⓗ
MESECAM Ⓗ
A. HEAD SW
L CH Ⓛ
R CH Ⓛ
OSD ON Ⓗ
PAL CONV. Ⓗ
SIMUL Ⓗ
CH SELECT
SEL MUTE Ⓗ
INPUT SEL A
TIMER BUS TLK
IC CLOCK
OSD CS Ⓛ
3.58 CONV. Ⓗ
AFC DEF. Ⓗ
AI ON Ⓗ
NTSC Ⓛ
POWER OFF Ⓗ
TO LUMINANCE/
CHROMINANCE &
AUDIO SECTION
AFC DEF Ⓗ
BILINGUAL Ⓛ
STEREO Ⓛ
AFC S-CURVE
AUDIO DEF Ⓗ
DAC
BAND U
BAND VL
TV/VTR
TO RF SECTION
P6001
1 OSD ON Ⓗ
2 PAL CONV. Ⓗ
3
4
5 RESET Ⓛ
6 SIMUL Ⓗ
7 CH SELECT
8
9 SEL MUTE Ⓗ
10 INPUT SEL A
11 S. DATA
12 S. CLOCK
13 TIMER BUS TLK
14 IC CLOCK
15 OSD CS Ⓛ
16 GND
17 GND
18 AFC DEF Ⓗ
19
20 AFC S-CURVE
21 AUDIO DEF. Ⓗ
22 3.58 CONV. Ⓗ
23 DAC
24 AI ON Ⓗ
25 UNREG 14V
26 BAND U
27 BAND VL
28 SYSTEM CTL 5V
29
30 UNREG −29V
31 HEATER (−)
32 HEATER (+)
TO TIMER
P7501
POWER OFF Ⓛ
UNREG 14V
GND (SYS)
HEATER (+)
HEATER (−)
UNREG −29V
SYSTEM CTL 5V
GND (CYL)
VIDEO 5V
REG 12V
GND
GND (FG)
GND (MOTOR)
TO POWER SUPPLY
SECTION
10
11
12
13
14
15
16
17
18
19
20

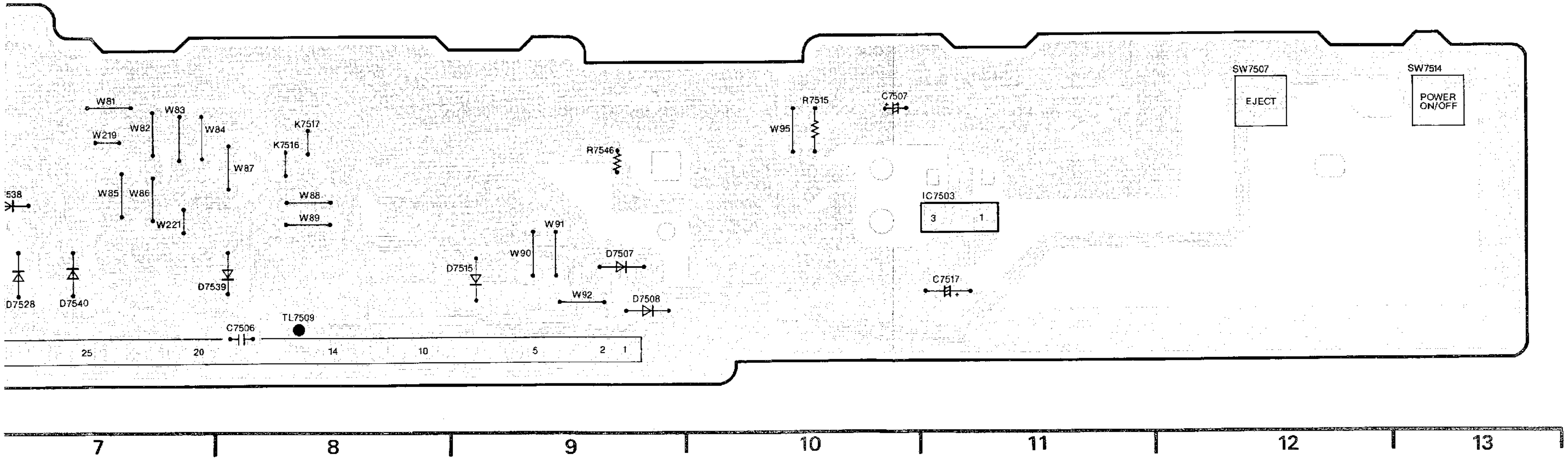
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

9 TIMER C B.A (VEP07772X: NV-HD600MK2A)

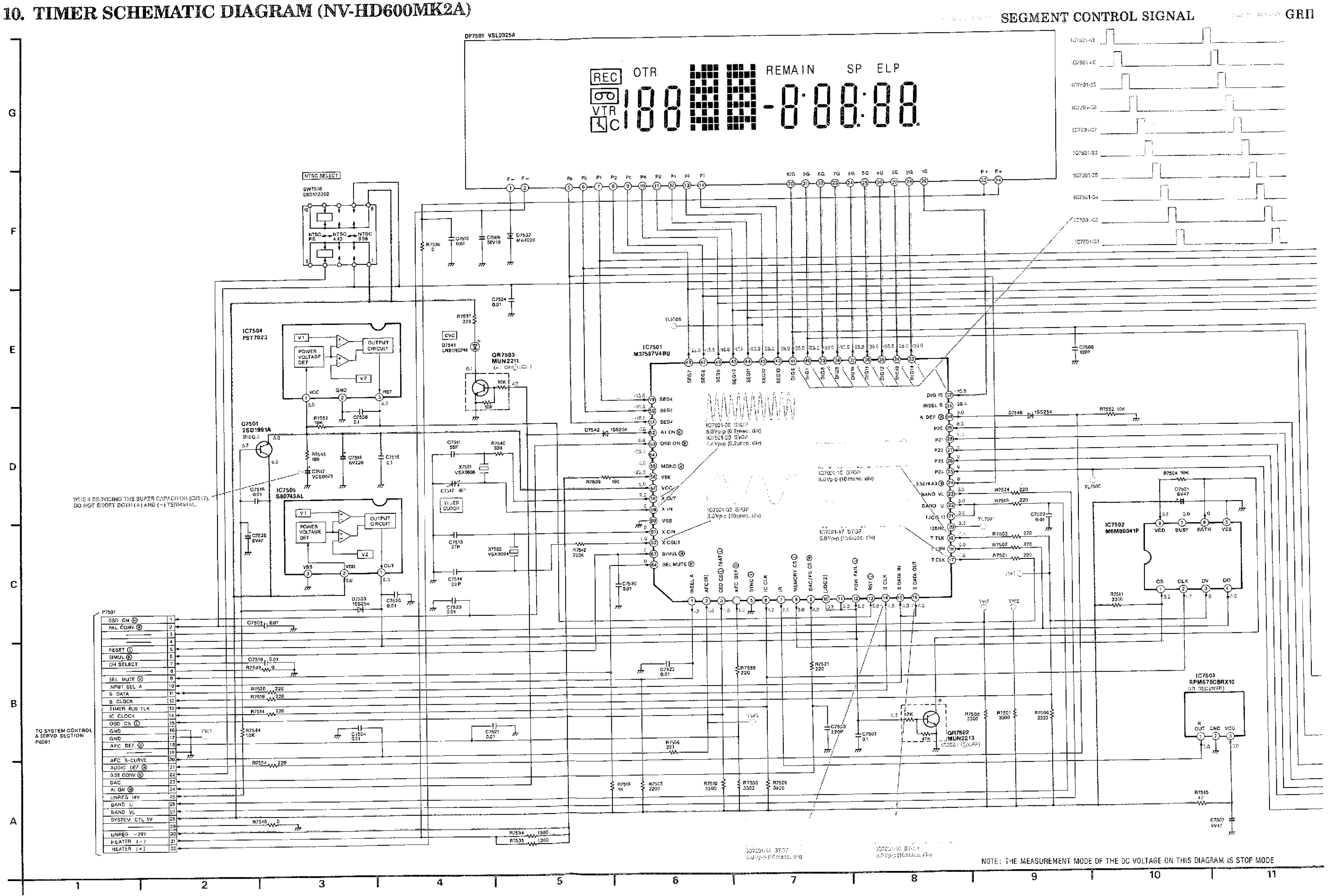

C
B
A
1
2
3
4
5
6
7
W41
C7522
P7501
C7530
32 30 20 10 2
31 25 15 5 1
W228
R7535
W201
W208
W25
K7514
R7534
W68
W225
C7523
C7519
W69
C7505
W202
W207
SW7515
PLAY
W209
W42
SW7510
PAUSE/ STILL
R7544
SW7503
REC
C7521
SW7506
C7504
CH UP
SW7513
CH DOWN
R7549
W222
W223
W73
W224
W1
D7501
W210
SW7502
REW
W211
W4
W2
W3
SW7509
FF
W206
W32
W43
W52
W217
W58
W57
W59
W62
W67
R7551
IC7504
W70
IC7505
C7509
R7554
W205
W31
W50
W53
W60
W61
C7520
TW1
C7508
R7556
SW7508
STOP
TW3
W44
W45
W213
W51
W56
C7526
W65
C7516
Q7501
W71
D7533
R7536
W6
W7
W8
R7539
R7513
D7502
R7518
R7550
R7510
W47
R7505
W218
W54
C7525
E C B
C7518
TW5
W28
W34
W48
W216
R7519
X7502
W64
W66
R7537
W9
W11
R7508
R7520
R7555
C7514
C7515
W72
D7532
TW4
W214
W49
W55
R7542
QR7503
W220
W227
W93
W35
W212
C7503
W94
W36
C7513
CVC
D7541
W229
W12
W14
R7514
TW2
W18
R7521
1 64
5 60
10 55
D7542
C7512
TIMER CLOCK
W226
W81
W83
W16
W15
QR7502
E B C
C7502
R7501
W37
W38
W80
W230
W10
D7503
D7506
W96
W203
IC7502
16 49
W219
W82
SW7518
1 5
NTSC SELECT
6 10
3.58 ↔ 4.43 ↔ P. B.
W29
5 8
R7507
R7509
W39
W40
IC7501
17 48
20 45
SW7512
TIMER REC
TL7508
SW7504
CVC
R7540
C7511
X7501
W97
W75
D7538
W85
W86
W30
R7504
R7506
R7511
R7502
TL7501
25 40
D7505
D7504
K7509
W98
W74
W221
W215
4 1
W20
W21
W19
C7524
R7552
W22
R7545
C7510
C7501
R7503
R7524
D7546
30 32 33 35
W79
W77
W76
W78
D7528
D7540
W23
K7519
DP7501
34 33 29 25 20

TIMER C.B.A.	
Transistor	
Q7501	B-6
Transistor & Resistor	
QR7501	A-8
QR7502	B-2
QR7503	B-5
Integrated Circuit	
IC7501	B-4
IC7502	B-2
IC7503	A-11
IC7504	C-6
IC7505	C-6
Test Point	
TL7501	A-3
TL7508	B-5
TL7509	A-8
TW1	C-5
TW2	B-2
TW3	B-3
TW4	B-1
TW5	B-2
Adjustment	
C7512	B-5
Connector	
P7501	C-4

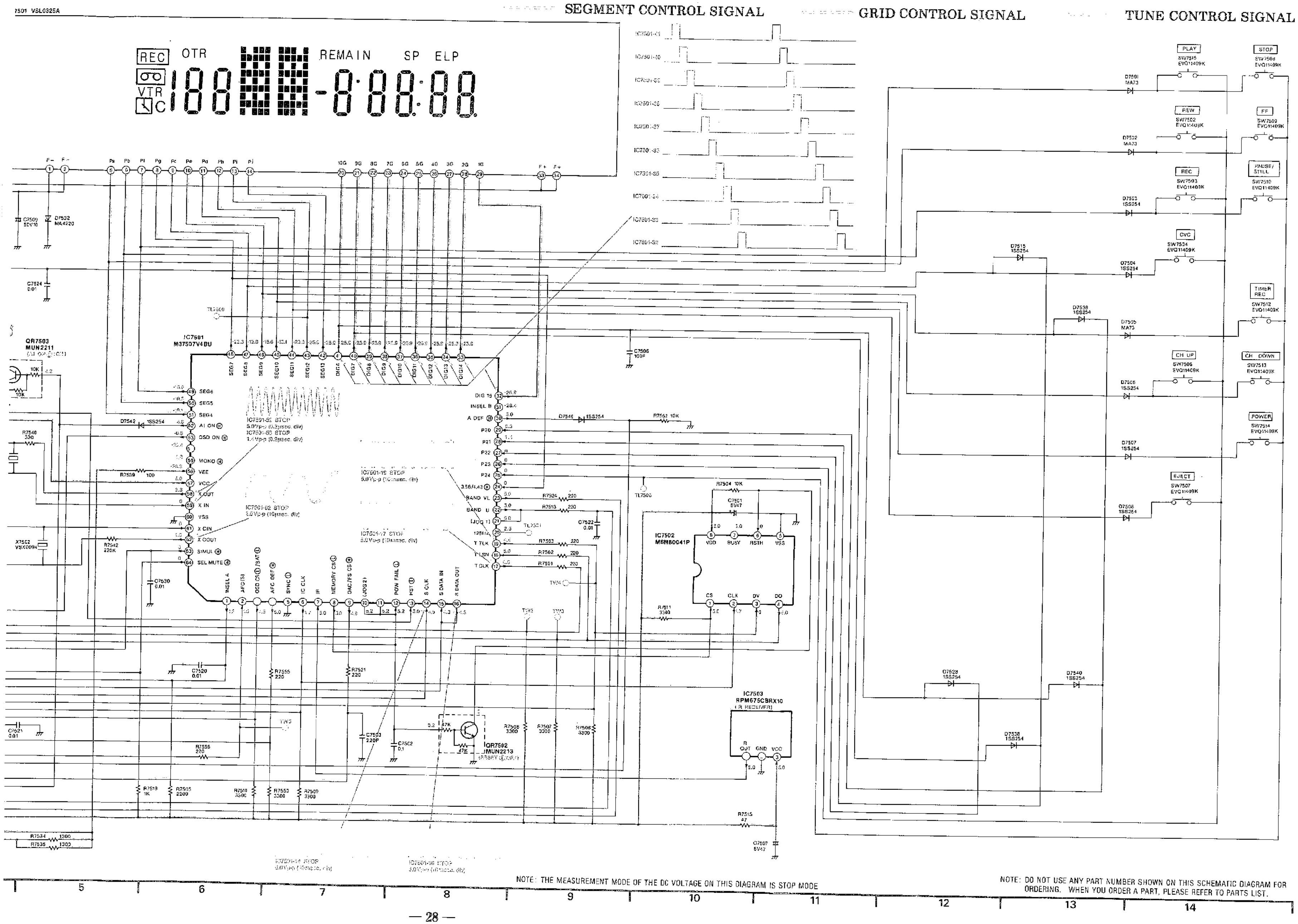
ADDRESS INFORMATION


W81
W83
W219
W82
W84
K7517
K7516
W87
538
W85
W86
W88
W89
W221
D7528
D7540
D7539
C7506
TL7509
25
20
14
10
5
2
1
D7515
W90
W91
D7507
W92
D7508
R7546
W95
R7515
C7507
IC7503
3
1
C7517
SW7507
EJECT
SW7514
POWER ON/OFF
7
8
9
10
11
12
13

10. TIMER SCHEMATIC DIAGRAM (NV-HD600MK2A)


SEGMENT CONTROL SIGNAL
GRI
DP7501 VSL0325A
REC
OTR
REMAIN
SP ELP
VTR
NTSC SELECT
SW7516 ESD172352
NTSC PB
NTSC 4.43
NTSC 3.58
IC7504 PST7023
POWER VOLTAGE DET
OUTPUT CIRCUIT
VCC
GND
RST
Q7501 2SD1991A
IC7505 S80743AL
VSS
VDD
OUT
WHEN SERVICING THE SUPER CAPACITOR (C7517), DO NOT SHORT BOTH (+) AND (−) TERMINAL.
QR7503 MUN2211
D7541 LN81RCPH
X7501 VSX0606
X7502 VSX0094
TIMER CLOCK
IC7501 M37507V4BU
IC7502 M6M80041P
IC7503 RPM675CBRX10
QR7502 MUN2213
P7501
OSD ON Ⓗ
PAL CONV. Ⓗ
RESET Ⓛ
SIMUL Ⓗ
CH SELECT
SEL MUTE Ⓗ
INPUT SEL A
S. DATA
S. CLOCK
TIMER BUS TLK
IC CLOCK
OSD CS Ⓛ
GND
GND
AFC DEF. Ⓗ
AFC S-CURVE
AUDIO DEF Ⓗ
3.58 CONV. Ⓗ
DAC
AI ON Ⓗ
UNREG 14V
BAND U
BAND VL
SYSTEM CTL 5V
UNREG −29V
HEATER (−)
HEATER (+)
TO SYSTEM CONTROL & SERVO SECTION P6001
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

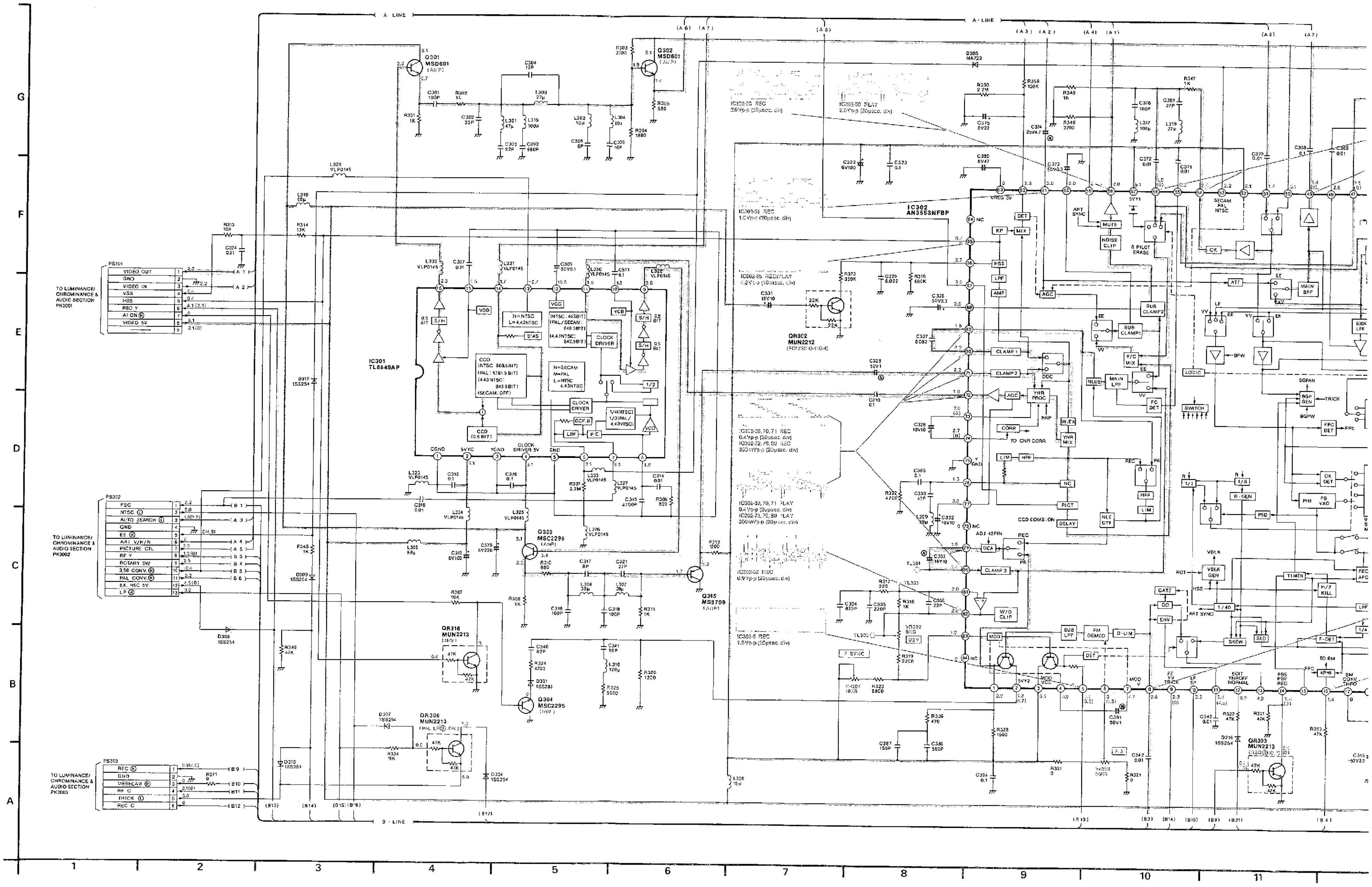


7501 VSL0325A
SEGMENT CONTROL SIGNAL
GRID CONTROL SIGNAL
TUNE CONTROL SIGNAL
REC
OTR
REMAIN
SP
ELP
VTR
C
IC7501
M37507V4BU
IC7502
M6M80041P
VDD
BUSY
RSTH
VSS
CS
CLK
DV
DO
IC7503
RPM675CBRX10
(R RECEIVER)
OUT
GND
VCC
QR7503
MUN2211
QR7502
MUN2213
SEG6
SEG5
SEG4
AI ON
OSD ON
MONO
VEE
VCC
X OUT
X IN
VSS
X CIN
X COUT
SIMUL
SEL MUTE
DIG 15
INSEL B
A DEF
P20
P21
P22
P23
P24
BAND VL
BAND U
T TLK
T LSN
T CLK
INSEL A
AFC(S)
OSD CS
AFC DEF
SYNC
IC CLK
IR
MEMORY CS
DAC/FS CS
JOG
POW FAIL
RST
S CLK
S DATA IN
R DATA OUT
IC7501-55 STOP 5.0Vp-p (0.2μsec. div)
IC7501-60 STOP 1.6Vp-p (0.2μsec. div)
IC7501-19 STOP 5.0Vp-p (10μsec. div)
IC7501-02 STOP 5.0Vp-p (10μsec. div)
IC7501-17 STOP 5.0Vp-p (10μsec. div)
IC7501-14 STOP 5.0Vp-p (10μsec. div)
IC7501-16 STOP 5.0Vp-p (10μsec. div)
PLAY
SW7515 EVQ11409K
STOP
SW7504 EVQ11409K
REW
SW7502 EVQ11409K
FF
SW7509 EVQ11409K
REC
SW7503 EVQ11409K
PAUSE/STILL
SW7510 EVQ11409K
OVC
SW7524 EVQ11409K
TIMER REC
SW7512 EVQ11409K
CH UP
SW7506 EVQ11409K
CH DOWN
SW7513 EVQ11409K
POWER
SW7514 EVQ11409K
EJECT
SW7507 EVQ11409K
D7501 MA73
D7502 MA73
D7503 1SS254
D7504 1SS254
D7505 MA73
D7506 1SS254
D7507 1SS254
D7508 1SS254
D7515 1SS254
D7536 1SS254
D7528 1SS254
D7540 1SS254
D7538 1SS254
D7542 1SS254
D7546 1SS254
D7532 MK4220
C7509 5EV10
C7524 0.01
C7506 10P
C7501 6V47
C7522 0.01
C7530 0.01
C7520 0.01
C7503 220P
C7502 0.1
C7521 0.01
C7507 6V47
R7540 330
R7539 100
R7542 220K
R7561 10K
R7504 10K
R7524 220
R7513 220
R7553 220
R7562 220
R7501 220
R7511 3300
R7555 220
R7521 220
R7556 220
R7506 3300
R7507 3300
R7508 3300
R7519 1K
R7505 2200
R7510 3300
R7552 3300
R7509 3300
R7515 47
R7534 1300
R7535 1300
X7502 VSX0094
5
6
7
8
9
10
11
12
13
14

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

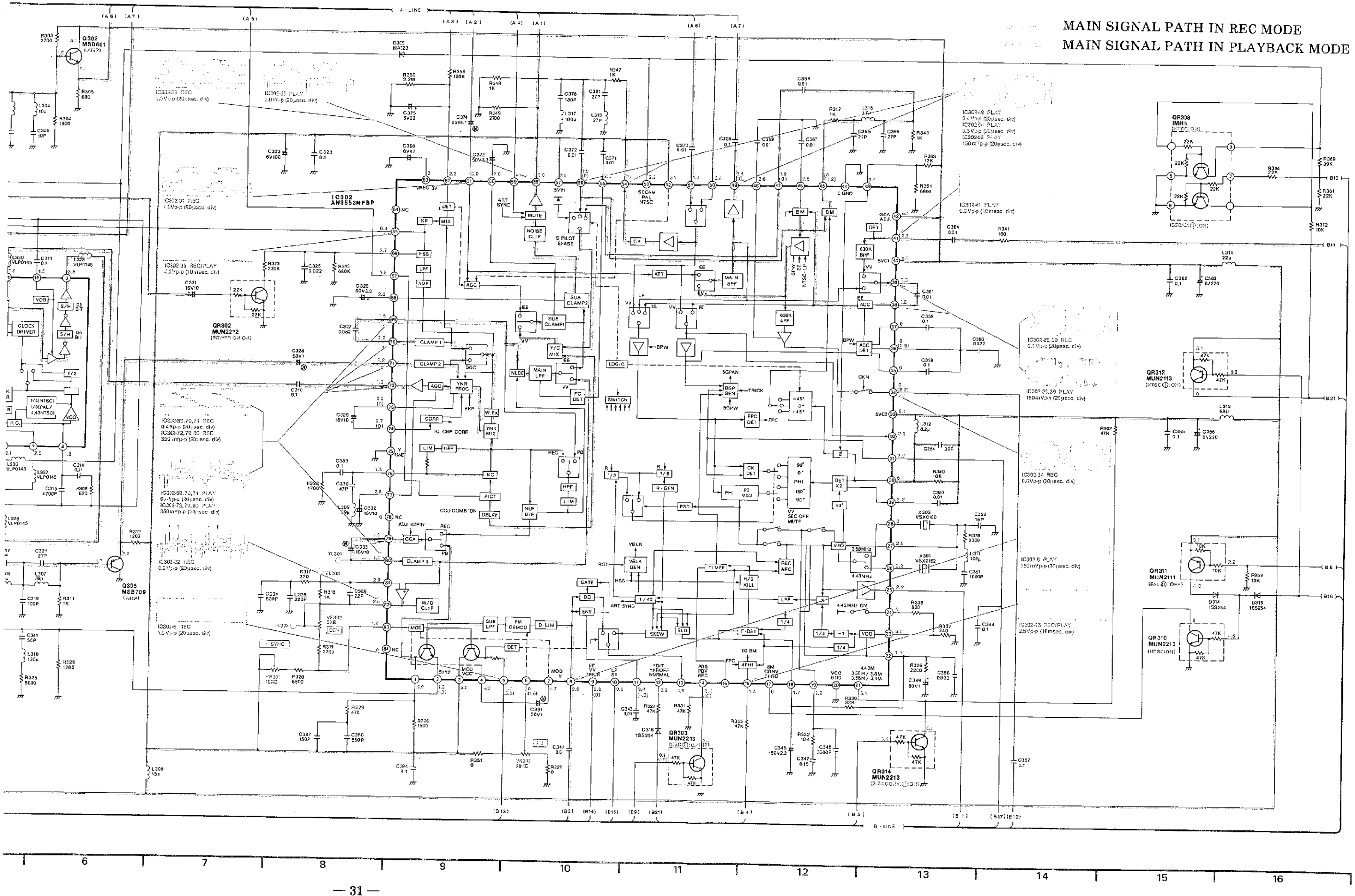
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

11. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM (NV-HD600MK2A)

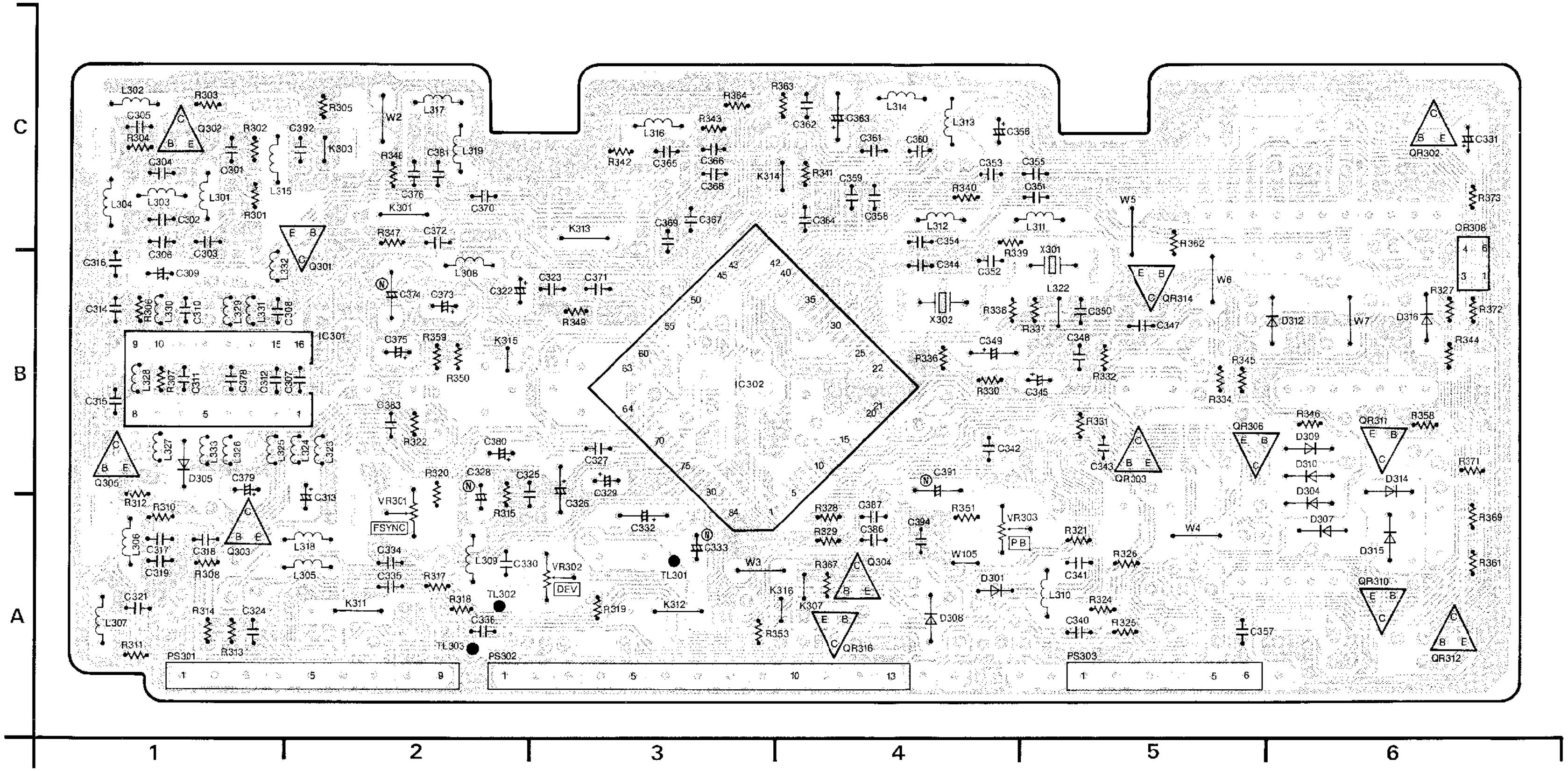


A LINE
B LINE
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
PS301
VIDEO OUT
GND
VIDEO IN
VSS
HSS
REC Y
AI ON
VIDEO 5V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK3001
PS302
FSC
NTSC
AUTO SEARCH
GND
EE
ART V/H/N
PICTURE CTL
RF Y
ROTARY SW
3.58 CONV.
PAL CONV.
EX. REC 5V
LP
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK3002
PS303
REC
GND
MESECAM
RF C
TRICK
REC C
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK3003
Q301 MSD601 (AMP)
Q302 MSD601 (AMP)
Q303 MSC2295 (AMP)
Q304 MSC2295 (INV)
Q305 MS9709 (AMP)
QR316 MUN2213 (INV)
QR306 MUN2213 (PAL LP ON)
QR302 MUN2212 (POWER ON/OFF)
QR303 MUN2213
IC301 TL8849AP
IC302 AN3553NFBP
D305 MA723
D307 1SS254
D308 1SS254
D309 1SS254
D310 1SS254
D312 1SS254
D316 1SS254
D324 1SS254
D331 1SS254
VCO
CCD (0.5 BIT)
CLOCK DRIVER
CCD (NTSC 568.5BIT) (PAL 1781.5 BIT) (4.43NTSC 843.5BIT) (SECAM: OFF)
H=SECAM M=PAL L=NTSC 4.43NTSC
H=NTSC L=4.43NTSC
S/H
VCB
VGG
BIAS
LIM
P.C
CLOCK DRIVER
CGND
5VYC
YGND
CLOCK DRIVER 5V
GND
VREG 5V
DET
KP
MIX
HSS
LPF
AMP
AGC
ATT
MAIN BPF
ART SYNC
MUTE
NOISE CLIP
3 PILOT ERASE
SECAM PAL NTSC
SUB CLAMP2
SUB CLAMP1
CLAMP 1
CLAMP 2
DOC
Y/C MIX
MAIN LPF
NLEB
FC DET
YNR PROC
W.EX
YNR MIX
CORR
TO CNR CORR
LIM
HPF
NC
PICT
DELAY
NLE CTF
CCD COMB: ON
ADJ 42PIN
BCA
CLAMP 3
W/D CLIP
SUB LPF
FM DEMOD
D-LIM
MOD
DEV
F. SYNC
MOD VCC
GATE
DD
ENV
SKEW
SLD
LOGIC
SWITCH
BGP GEN
TRICK
FPC DET
CK DET
PHI
PB VXO
1/2
1/8
R-GEN
PSD
VBLK GEN
ROT
HSS
1/40
ART SYNC
TIMER
H/2 KILL
F-DET
TO BM
4PHI
REC FPC
EDIT YNROFF NORMAL
PBS PBV REC
BM CONV INFO
EE VV TRICK
LF SP
IC302-60 REC 2.6Vp-p (20μsec. div)
IC302-60 PLAY 2.0Vp-p (20μsec. div)
IC302-61 REC 1.0Vp-p (20μsec. div)
IC302-65 REC/PLAY 4.2Vp-p (10μsec. div)
IC302-70,71 REC 0.4Vp-p (20μsec. div)
IC302-72,79,80 REC 350mVp-p (20μsec. div)
IC302-70,71 PLAY 0.4Vp-p (20μsec. div)
IC302-72,79,80 PLAY 350mVp-p (20μsec. div)
IC302-82 REC 0.9Vp-p (20μsec. div)
IC302-5 REC 1.0Vp-p (20μsec. div)

RAM (NV-HD600MK2A)


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
A - LINE
B - LINE
IC302
AN3553NFBP
Q302
MSD601
Q305
MSB709
QR302
MUN2212
QR303
MUN2213
QR308
IMH5
QR310
MUN2213
QR311
MUN2111
QR312
MUN2113
QR314
MUN2213
X301
VSX0112
X302
VSX0160
MUTE
NOISE CLIP
CLAMP 1
CLAMP 2
CLAMP 3
SUB CLAMP
AGC
YNR PROC
MAIN LPF
W/D CLIP
FM DEMOD
SUB LPF
D-LIM
CORR
TIMER
H/2 KILL
REC AFC
VXO
VCO
BGP GEN
FPC DET
CK DET
PB VXO
SKEW
SLD
6
7
8
9
10
11
12
13
14
15
16

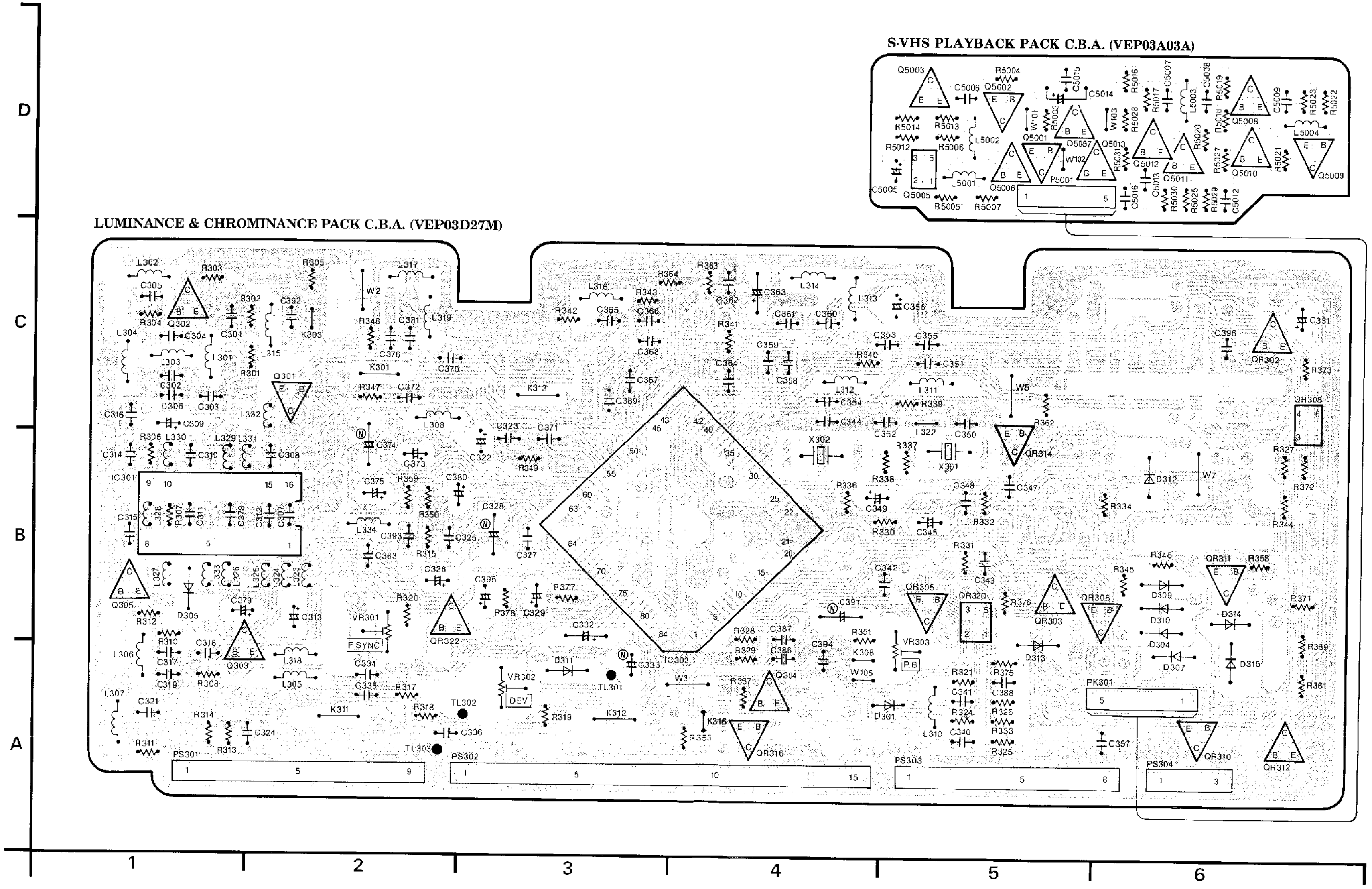
12. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03B22P: NV-HD600MK2A)


C
B
A
1
2
3
4
5
6
IC301
IC302
Q301
Q302
Q303
Q304
Q305
QR302
QR303
QR306
QR308
QR310
QR311
QR312
QR314
QR316
VR301
FSYNC
VR302
DEV
VR303
PB
PS301
PS302
PS303
TL301
TL302
TL303
X301
X302
W2
W3
W4
W5
W6
W7
W105
K301
K303
K307
K311
K312
K313
K314
K315
K316

LUMINANCE & CHROMINANCE PACK C.B.A.	
Transistor	
Q301	B-2
Q302	C-1
Q303	A-1
Q304	A-4
Q305	B-1
Transistor & Resistor	
QR302	C-6
QR303	B-5
QR306	B-5
QR308	C-6
QR310	A-6
QR311	B-6
QR312	A-6
QR314	B-5
QR316	A-4
Integrated Circuit	
IC301	B-2
IC302	A-3
Adjustment	
VR301	A-2
VR302	A-3
VR303	A-4
Connector	
PS301	A-1
PS302	A-2
PS303	A-5

ADDRESS INFORMATION

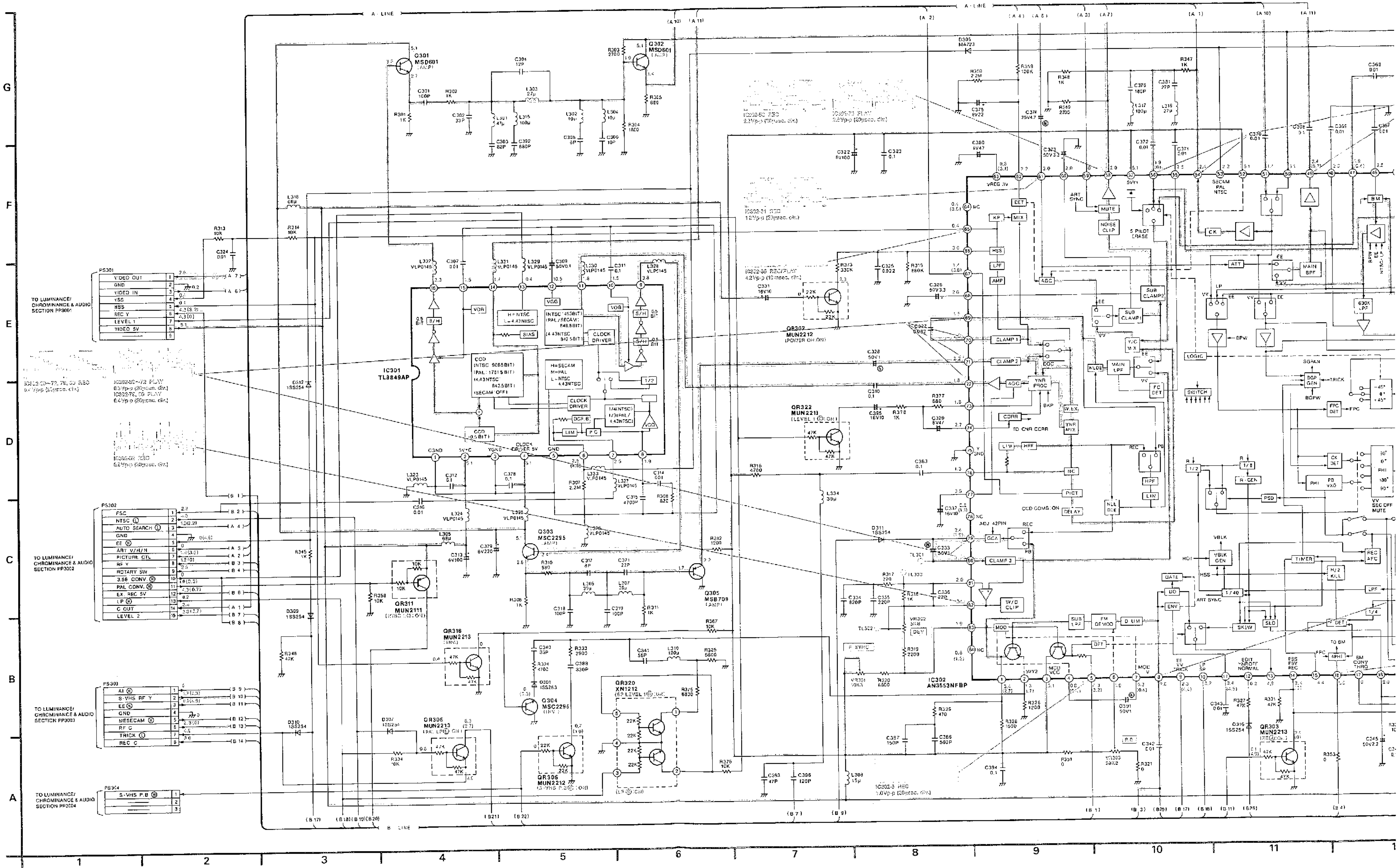
13. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03D27M: NV-HD650MK2A)


S-VHS PLAYBACK PACK C.B.A. (VEP03A03A)
LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03D27M)
D
C
B
A
1
2
3
4
5
6
IC301
IC302
X301
X302
VR301
VR302
VR303
F SYNC
DEV
P.B
TL301
TL302
TL303
PS301
PS302
PS303
PS304
PK301
P5001

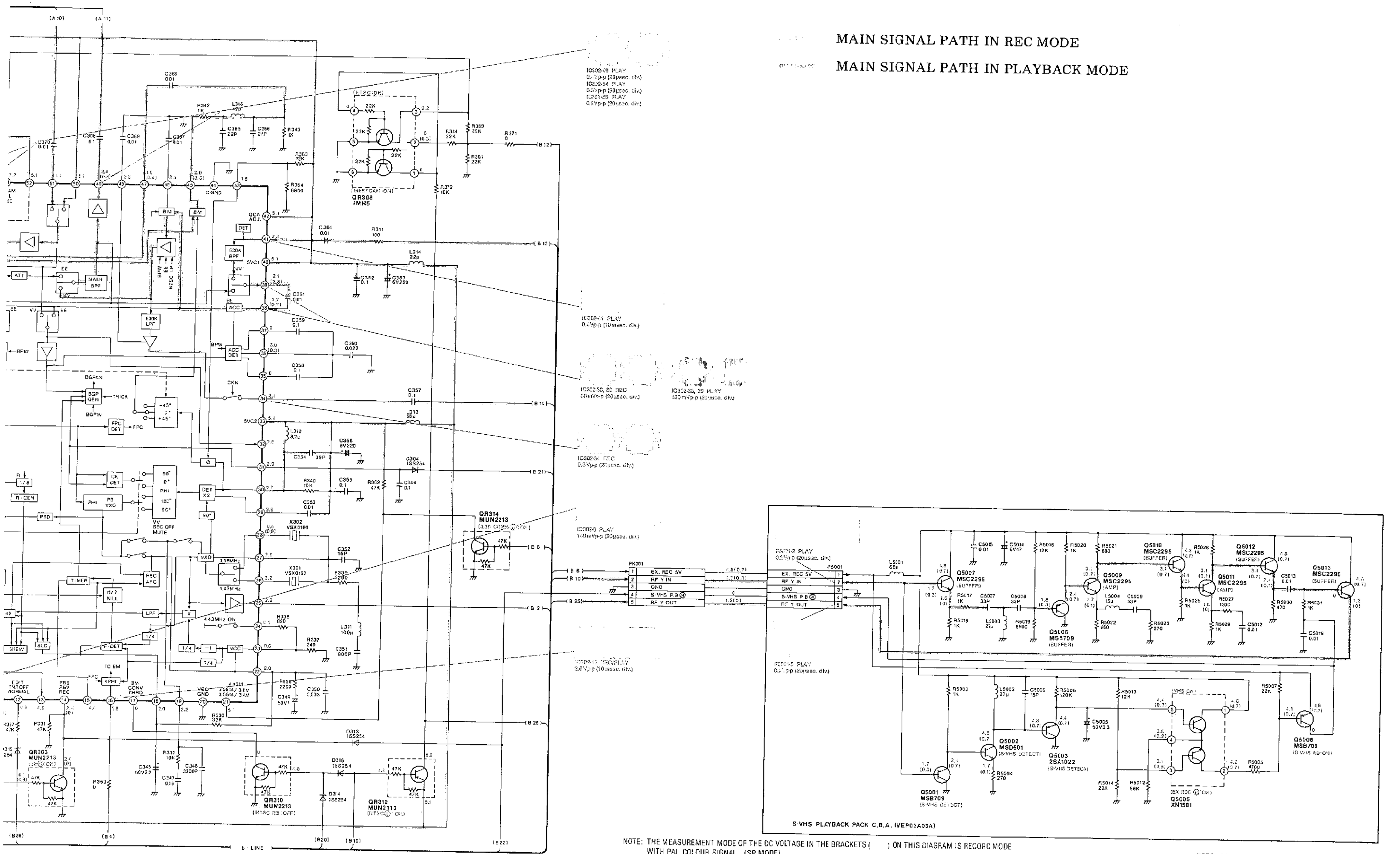
LUMINANCE & CHROMINANCE PACK C.B.A.	
Transistor	
Q301	C-2
Q302	C-1
Q303	A-1
Q304	A-4
Q305	B-1
Q5001	D-5
Q5002	D-5
Q5003	D-5
Q5005	D-5
Q5006	D-5
Q5007	D-5
Q5008	D-6
Q5009	D-6
Q5010	D-6
Q5011	D-6
Q5012	D-6
Q5013	D-6
Transistor & Resistor	
QR302	C-6
QR303	B-5
QR305	B-5
QR306	B-6
QR308	C-6
QR310	A-6
QR311	B-6
QR312	A-6
QR314	B-5
QR316	A-4
QR320	B-5
QR322	B-2
Integrated Circuit	
IC301	B-1
IC302	B-4
Test Point	
TL301	A-3
TL302	A-3
TL303	A-2
Adjustment	
VR301	B-2
VR302	A-3
VR303	B-5
Connector	
P5001	D-5
PK301	A-6
PS301	A-1
PS302	A-3
PS303	A-5
PS304	A-6

ADDRESS INFORMATION

14. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM (NV-HD650MK2A)



A - LINE
B - LINE
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
PS301
VIDEO OUT
GND
VIDEO IN
VSS
RSS
REC Y
LEVEL 1
VIDEO 5V
TO LUMINANCE/CHROMINANCE & AUDIO SECTION PP3001
PS302
FSC
NTSC
AUTO SEARCH
GND
EE
ART V/H/N
PICTURE CTL
RF Y
ROTARY SW
3.58 CONV
PAL CONV.
EX. REC 5V
LP
C OUT
LEVEL 2
TO LUMINANCE/CHROMINANCE & AUDIO SECTION PP3002
PS303
AI
S-VHS RF Y
EE
GND
MESECAM
RF C
TRICK
REC C
TO LUMINANCE/CHROMINANCE & AUDIO SECTION PP3003
PS304
S-VHS P.B
TO LUMINANCE/CHROMINANCE & AUDIO SECTION PP3004
Q301 MSD601 (AMP)
Q302 MSD601 (AMP)
Q303 MSC2295 (AMP)
Q304 MSC2295 (INV)
Q305 MSB709 (AMP)
IC301 TL3849AP
IC302 AN3553NFBP
QR302 MUN2212 (POWER ON ON)
QR322 MUN2213
QR311 MUN2111
QR316 MUN2213 (INV)
QR306 MUN2213
QR305 MUN2212
QR320 XN1212
QR303 MUN2213
CCD DRIVER
CLOCK DRIVER
S/H
VOB
VGG
BIAS
VCO
LIM
MUTE
NOISE CLIP
S PILOT ERASE
ART SYNC
SECAM PAL NTSC
CK
MAIN BPF
SUB CLAMP2
SUB CLAMP
MAIN LPF
Y/C MIX
NLDE
FC DET
LOGIC
SWITCH
CLAMP 1
CLAMP 2
AGC
YNR PROC
DOC
CORR
TO CNR CCRR
YNR MIX
NC
PICT
DELAY
NLE D/E
HPF
LIN
GCA
CLAMP 3
W/C CLIP
SUB LPF
FM DEMOD
D LIM
MOD
DFT
VBLK GEN
TIMER
H/2 KILL
GATE
ENV
1/40
SKEW
SLD
ART SYNC
REC AFC
PHI
PB VXO
CK DET
R-GEN
PSD
FPC DET
SGP GEN
TRICK
BPW
6PHI
SM CONV THRO
MUTE
TO BM

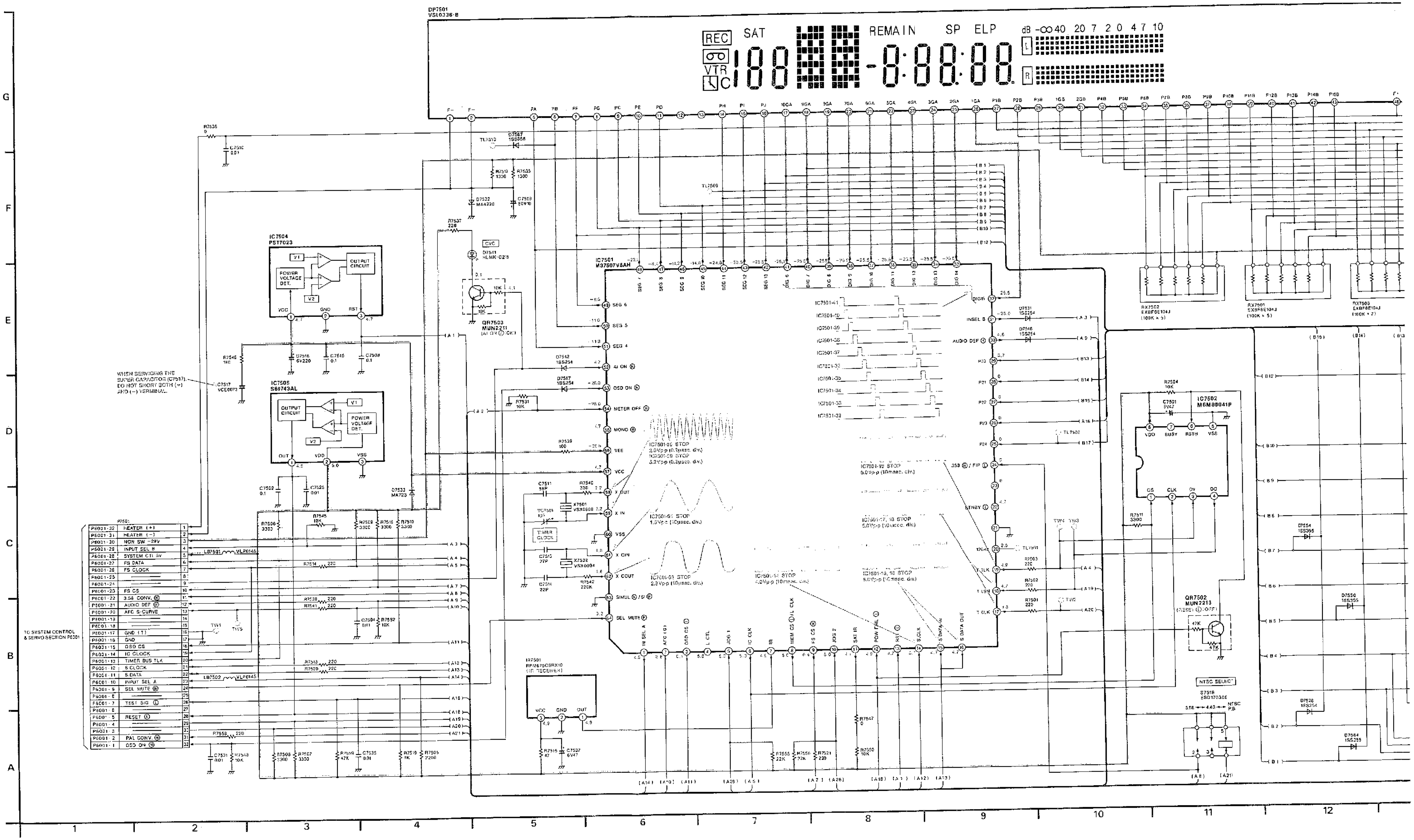

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
QR308 IMH5
QR314 MUN2213
QR303 MUN2213
QR310 MUN2213
QR312 MUN2113
D313 1SS254
D315 1SS254
D314 1SS254
D304 1SS254
X302 VSX0160
X301 VSX0162
L311 100µ
L313 56µ
L314 22µ
L312 8.2µ
PK301
EX. REC 5V
RF Y IN
GND
S-VHS P.B
RF Y OUT
P5001
Q5007 MSC2295 (BUFFER)
Q5008 MSB709 (BUFFER)
Q5009 MSC2295 (AMP)
Q5010 MSC2295 (BUFFER)
Q5011 MSC2295 (AMP)
Q5012 MSC2295 (BUFFER)
Q5013 MSC2295 (BUFFER)
Q5001 MSB709 (S-VHS DETECT)
Q5002 MSD601 (S-VHS DETECT)
Q5003 2SA1022 (S-VHS DETECT)
Q5005 XN1501
Q5006 MSB709 (S-VHS ABION)
S-VHS PLAYBACK PACK C.B.A. (VEP03A03A)
B-LINE
TIMER
BGP GEN
FPC DET
CK DET
PB VXO
R-GEN
PSD
SKEW
SLC
LPF
VXO
VCO
REC AFC
H/2 KILL
BM
ACC
ACC DET
DET X2
MAIN BPF
ATT
EE
VV
BFW
BGPW
TRICK
GCA ADJ.
5VCC1
5VCC2
C-GND
3.58MHz
4.43MHz
TO BM
BM CONV THRO
VRQ GND

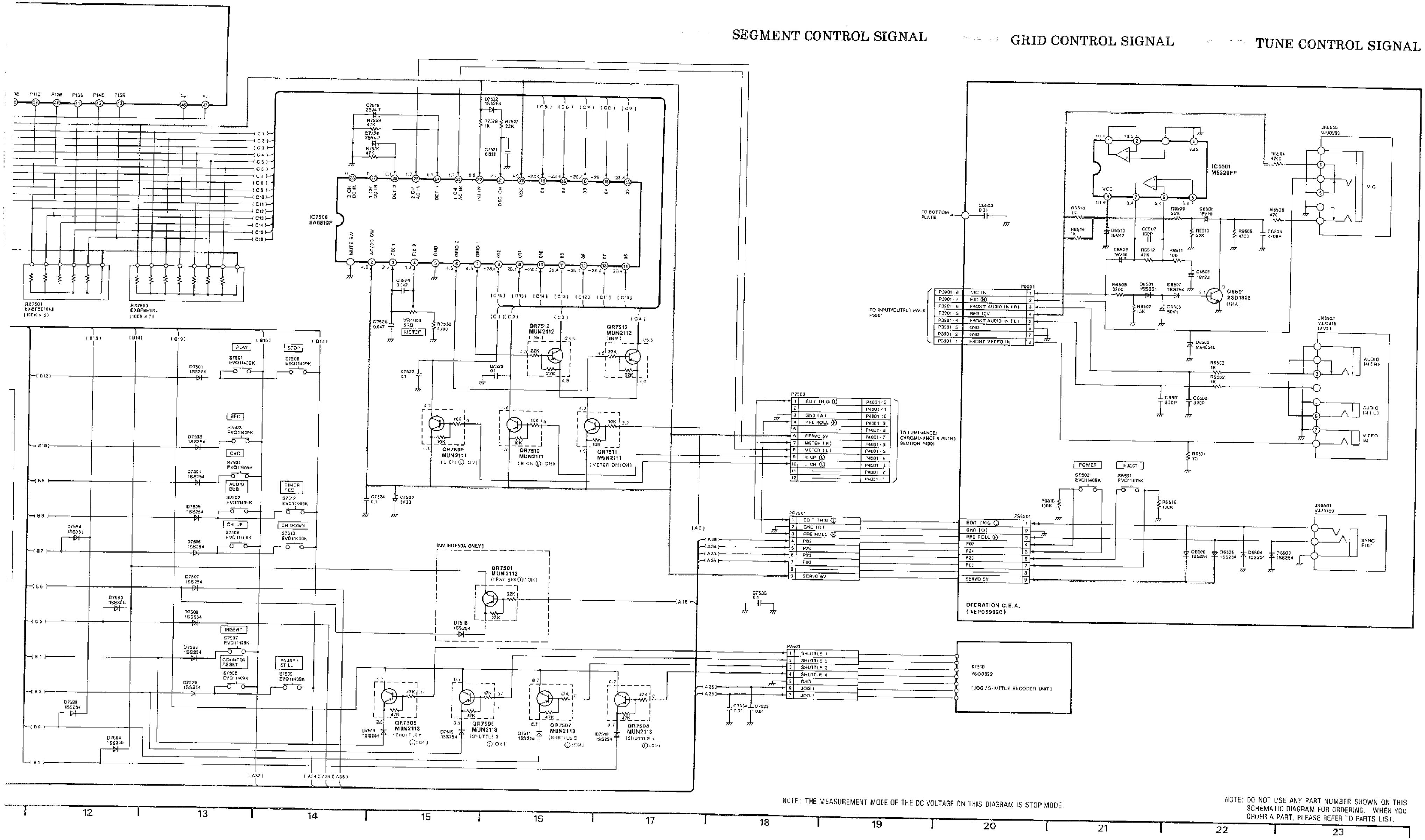
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21

15. TIMER & OPERATION SCHEMATIC DIAGRAM (NV-HD650MK2A)

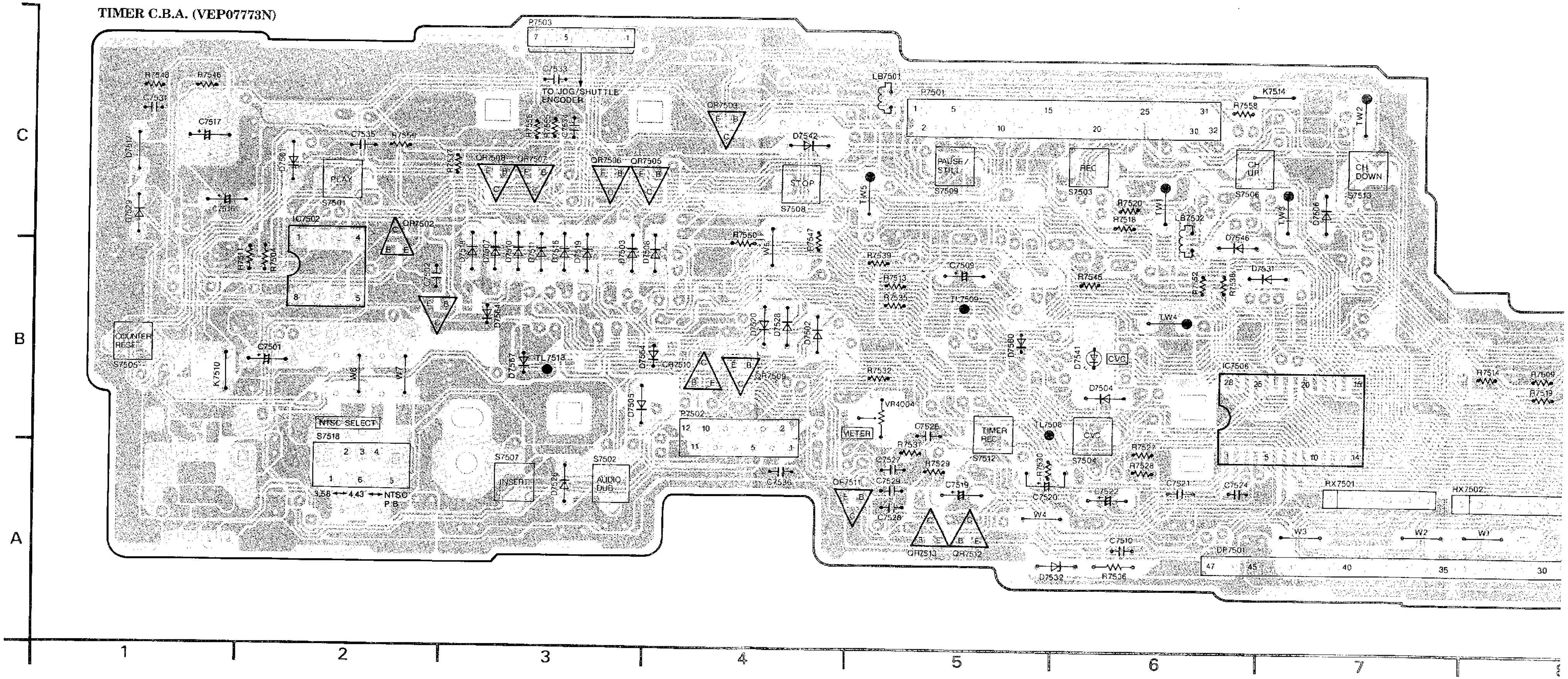

DP7501
VSL0336-B
REC
SAT
REMAIN
SP
ELP
VTR
C
dB -∞40 20 7 2 0 4 7 10
L
R
IC7501
M37507V8AH
SEG 4
SEG 5
SEG 6
SEG 7
SEG 8
SEG 9
SEG 10
SEG 11
SEG 12
SEG 13
DIG 6
DIG 7
DIG 8
DIG 9
DIG 10
DIG 11
DIG 12
DIG 13
DIG 14
DIG15
AI ON Ⓗ
OSD ON Ⓗ
METER OFF Ⓗ
MONO Ⓗ
VEE
VCC
X OUT
X IN
VSS
X CIN
X COUT
SIMUL Ⓗ / SI Ⓕ
SEL MUTE Ⓗ
IN SEL A
AFC (S)
OSD CS Ⓛ
L CTL
JOG 1
IC CLK
IR
MEM CS Ⓛ / L CLK
FS CS Ⓗ
JOG 2
SAT IR
POW FAIL Ⓛ
RST Ⓛ
S.CLK
S DATA IN
S DATA OUT
T CLK
T LSN
T TLK
126Hz
STNBY Ⓛ
358 Ⓗ / FIP Ⓛ
P24
P23
P22
P21
P20
AUDIO DEF Ⓛ
INSEL B
IC7501-41
IC7501-40
IC7501-39
IC7501-38
IC7501-37
IC7501-36
IC7501-35
IC7501-34
IC7501-33
IC7501-32
IC7501-62 STOP
3.0Vp-p (0.2μsec. div.)
IC7501-59 STOP
3.2Vp-p (0.2μsec. div.)
IC7501-61 STOP
1.5Vp-p (10μsec. div.)
IC7501-63 STOP
2.3Vp-p (10μsec. div.)
IC7501-14 STOP
4.0Vp-p (10msec. div.)
IC7501-19 STOP
5.0Vp-p (10msec. div.)
IC7501-17, 18 STOP
5.0Vp-p (10msec. div.)
IC7501-15, 16 STOP
5.0Vp-p (10msec. div.)
IC7504
PST7023
V1
V2
POWER VOLTAGE DET.
OUTPUT CIRCUIT
VCC
GND
RST
IC7505
S80743AL
OUT
VDD
VSS
WHEN SERVICING THE SUPER CAPACITOR (C7517), DO NOT SHORT BOTH (+) AND (−) TERMINAL.
C7517
VCE0073
QR7503
MUN2211
(AI ON Ⓛ:ON)
CVC
D7541
HLMK-D215
D7522
MA4220
D7533
MA723
D7567
1SS355
D7542
1SS254
D7517
1SS254
D7531
1SS254
D7546
1SS254
X7501
VSX0608
X7502
VSX0094
VC7501
TIMER CLOCK
IR7501
RPM675CBRX10
(IR RECEIVER)
IC7502
M6M80041P
VDD
BUSY
RSTH
VSS
CS
CLK
DV
DO
QR7502
MUN2213
(RESET Ⓛ:OFF)
NTSC SELECT
S7518
ESD170306
3.58 ←→ 4.43 ←→ NTSC P.B
RX7502
EXBF6E104J
(100K × 5)
RX7501
EXBF6E104J
(100K × 5)
RX7503
EXBF6E104J
(100K × 7)
D7554
1SS355
D7550
1SS355
D7526
1SS254
D7564
1SS355
TL7501
TL7502
TL7509
TL7513
TW1
TW2
TW3
TW4
TW5
LB7501
VLP0145
LB7502
VLP0145
P7501
TO SYSTEM CONTROL & SERVO SECTION P6001
P6001-32 HEATER (+) 1
P6001-31 HEATER (−) 2
P6001-30 NON SW −29V 3
P6001-29 INPUT SEL B 4
P6001-28 SYSTEM CTL 5V 5
P6001-27 FS DATA 6
P6001-26 FS CLOCK 7
P6001-25 8
P6001-24 9
P6001-23 FS CS 10
P6001-22 3.58 CONV. Ⓗ 11
P6001-21 AUDIO DEF Ⓗ 12
P6001-20 AFC S-CURVE 13
P6001-19 14
P6001-18 15
P6001-17 GND (T) 16
P6001-16 GND 17
P6001-15 OSD CS 18
P6001-14 IC CLOCK 19
P6001-13 TIMER BUS TLK 20
P6001-12 S.CLOCK 21
P6001-11 S.DATA 22
P6001-10 INPUT SEL A 23
P6001-9 SEL MUTE Ⓗ 24
P6001-8 25
P6001-7 TEST SIG Ⓛ 26
P6001-6 27
P6001-5 RESET Ⓛ 28
P6001-4 29
P6001-3 30
P6001-2 PAL CONV. Ⓗ 31
P6001-1 OSD ON Ⓗ 32
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12


SEGMENT CONTROL SIGNAL
GRID CONTROL SIGNAL
TUNE CONTROL SIGNAL
IC7506
BA6810F
IC6501
M5220FP
Q6501
2SD1328
QR7501
MUN2112
QR7505
QR7506
QR7507
QR7508
MUN2113
QR7509
QR7510
QR7511
MUN2111
QR7512
QR7513
MUN2112
RX7501
RX7503
PLAY
STOP
REC
EVC
AUDIO DUB
TIMER REC
CH UP
CH DOWN
INSERT
COUNTER RESET
PAUSE/STILL
POWER
EJECT
(NV-HD650A ONLY)
TO BOTTOM PLATE
TO INPUT/OUTPUT PACK
TO LUMINANCE/CHROMINANCE & AUDIO SECTION
EDIT TRIG
GND
PRE ROLL
SERVO 5V
METER (R)
METER (L)
R CH
L CH
SHUTTLE 1
SHUTTLE 2
SHUTTLE 3
SHUTTLE 4
JOG 1
JOG 2
S7510
VEK0522
(JOG/SHUTTLE ENCODER UNIT)
MIC IN
FRONT AUDIO IN (R)
FRONT AUDIO IN (L)
FRONT VIDEO IN
REG 12V
MIC
AUDIO IN (R)
AUDIO IN (L)
VIDEO IN
SYNC. EDIT
OPERATION C.B.A.
(VEP0899SC)
12
13
14
15
16
17
18
19
20
21
22
23

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

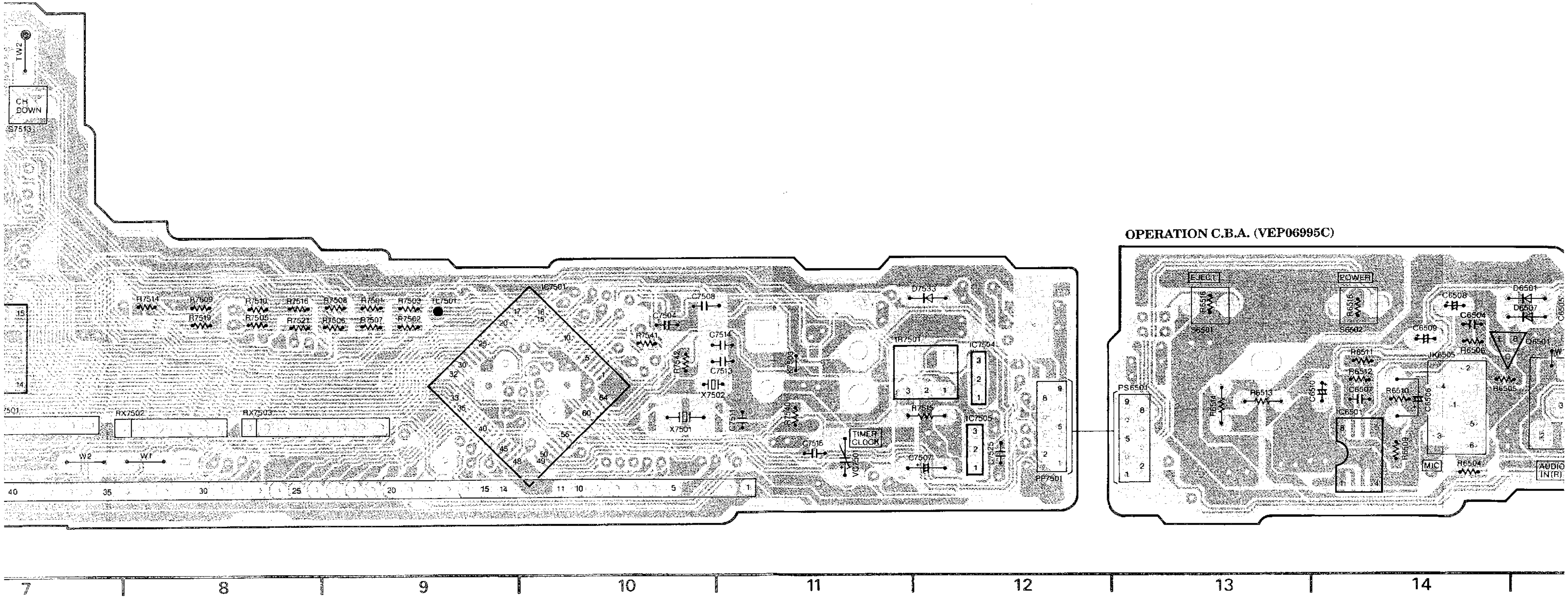
16. TIMER C.B.A. (VEP07773N: NV-HD650MK2A) & OPERATION C.B.A. (VEP06995C: NV-HD650MK2A)



TIMER C.B.A. (VEP07773N)

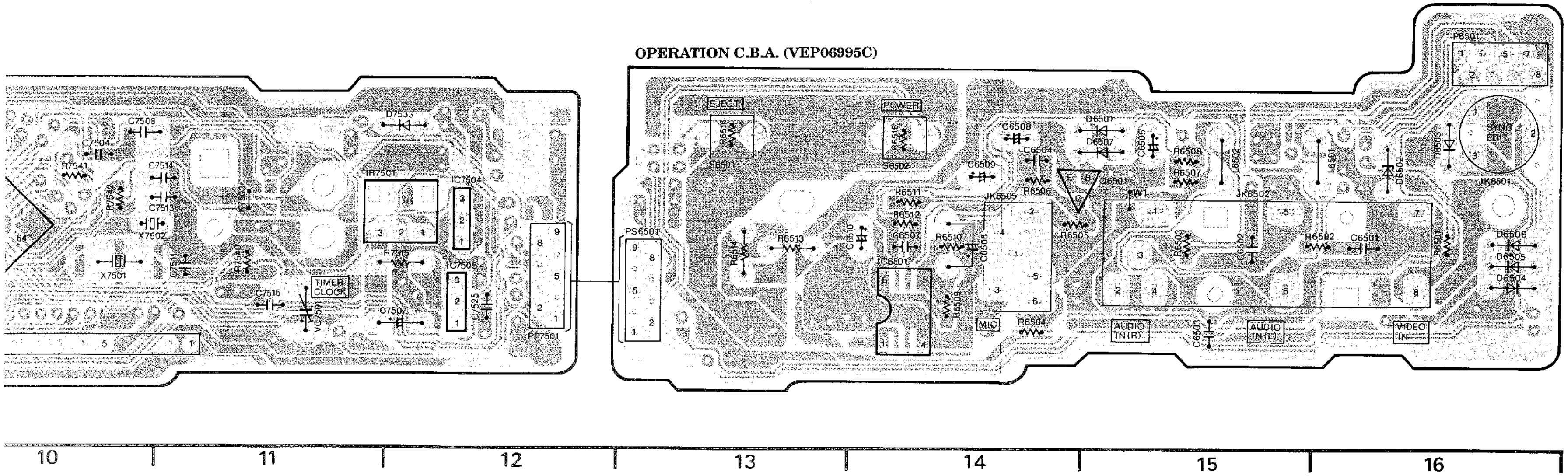
C
B
A
1
2
3
4
5
6
7
P7503
C7533
TO JOG/SHUTTLE ENCODER
R7548
R7546
C7531
C7517
C7535
R7559
PLAY
S7501
D7501
D7529
C7516
IC7502
QR7502
QR7508
QR7507
QR7506
QR7505
QR7503
D7542
STOP
S7508
LB7501
P7501
PAUSE/STILL
S7509
REC
S7503
K7514
R7558
CH UP
S7506
CH DOWN
S7513
TW2
TW5
TW1
TW3
R7520
R7518
LB7502
D7546
D7531
D7506
R7550
R7547
R7539
C7509
R7513
R7535
TL7509
R7545
TW4
COUNTER RESET
S7505
C7501
K7510
W6
W7
TL7518
QR7510
QR7509
D7520
D7528
D7502
D7560
D7541
CVC
IC7506
D7504
R7532
VR4004
METER
C7526
TIMER REC
S7512
TL7508
CVC
S7504
NTSC SELECT
S7518
3.58
4.43
NTSC P.B
S7507
INSERT
S7502
AUDIO DUB
P7502
C7536
QR7511
C7527
R7537
C7529
R7529
C7519
C7520
R7530
C7522
C7521
C7524
R7527
R7528
RX7501
HX7502
R7514
R7509
R7519
W4
W3
W2
W1
QR7513
QR7512
C7528
C7510
D7532
R7536
DP7501
47
45
40
35
30

OPERATION C.B.A. (VEP06995C)



TW2
CH DOWN
S7513
R7514
R7509
R7519
R7510
R7505
R7516
R7521
R7508
R7506
R7501
R7507
R7503
R7502
IC7501
R7541
R7542
C7504
C7508
C7514
C7513
X7502
X7501
C7511
R7540
C7516
TIMER CLOCK
VD7501
D7533
IR7501
IC7504
IC7505
R7512
C7507
C7525
PP7501
RX7501
RX7502
RX7503
W2
W1
EJECT
R6516
S6501
POWER
R6515
S6502
C6508
C6504
C6509
D6501
D6502
C6505
R6506
D6501
R6511
R6512
C6502
JK6505
R6510
C6506
R6505
PS6501
R6514
R6513
C6510
IC6501
R6509
MIC
R6504
AUDIO IN(R)
7
8
9
10
11
12
13
14

OPERATION C.B.A. (VEP06995C)



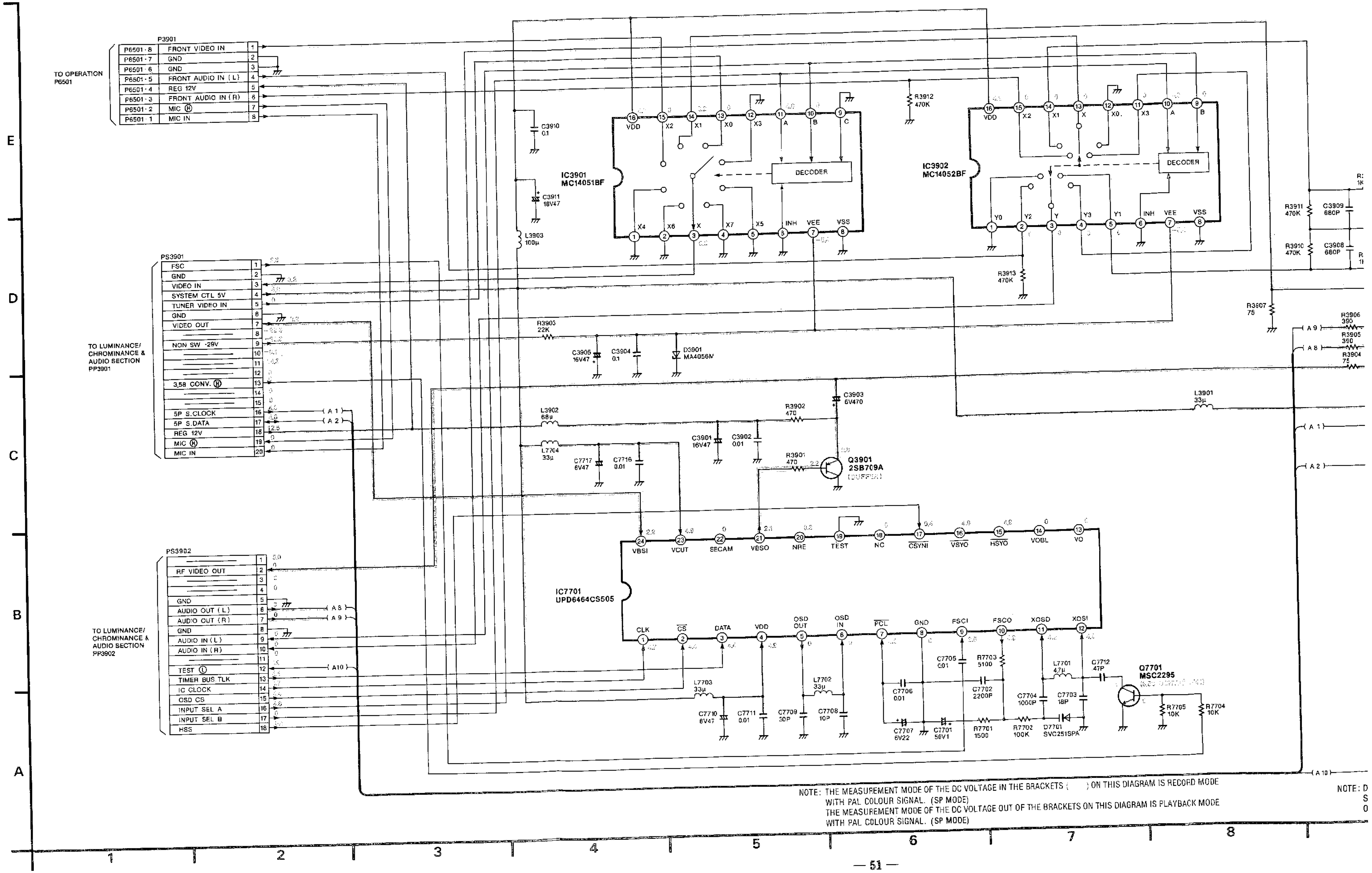
C7509
C7504
R7541
C7514
C7513
X7502
X7501
C7511
R7540
C7515
VC7501
TIMER CLOCK
C7507
D7533
IR7501
IC7504
IC7505
R7515
C7525
PP7501
PS6501
EJECT
S6501
R6516
POWER
S6502
R6515
R6514
R6513
C6510
IC6501
C6507
R6512
R6511
R6510
C6506
R6509
C6509
C6508
C6504
R6506
JK6505
MIC
R6504
R6505
Q6501
D6501
D6507
C6505
R6508
R6507
L6502
TW1
JK6502
S6502
C6502
C6503
AUDIO IN(R)
AUDIO IN(L)
R6502
C6501
L6501
R6501
D6502
D6503
SYNC EDIT
JK6504
P6501
D6506
D6505
D6504
VIDEO IN
10
11
12
13
14
15
16

TIMER C.B.A.	
Transistor	
Q6501	B-15
Transistor & Resistor	
QR7501	B-3
QR7502	C-2
QR7503	C-4
QR7505	C-4
QR7506	C-3
QR7507	C-3
QR7508	C-3
QR7509	B-4
QR7510	B-4
QR7511	A-5
QR7512	A-5
QR7513	A-5
Integrated Circuit	
IC6501	A-14
IC7501	B-10
IC7502	C-2
IC7504	B-12
IC7505	A-12
IC7506	B-7
Test Point	
TL7501	B-9
TL7508	B-5
TL7509	B-5
TL7513	B-3
TW1	C-6
TW2	C-7
TW3	C-7
TW4	B-6
TW5	C-5
Adjustment	
VC7501	A-11
VR4004	B-5
Connector	
P6501	B-16
P7501	C-5
P7502	B-4
P7503	C-3
PP7501	A-12
PS6501	B-13

ADDRESS INFORMATION

17. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-HD650MK2A)

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAI
AUDIO MAI

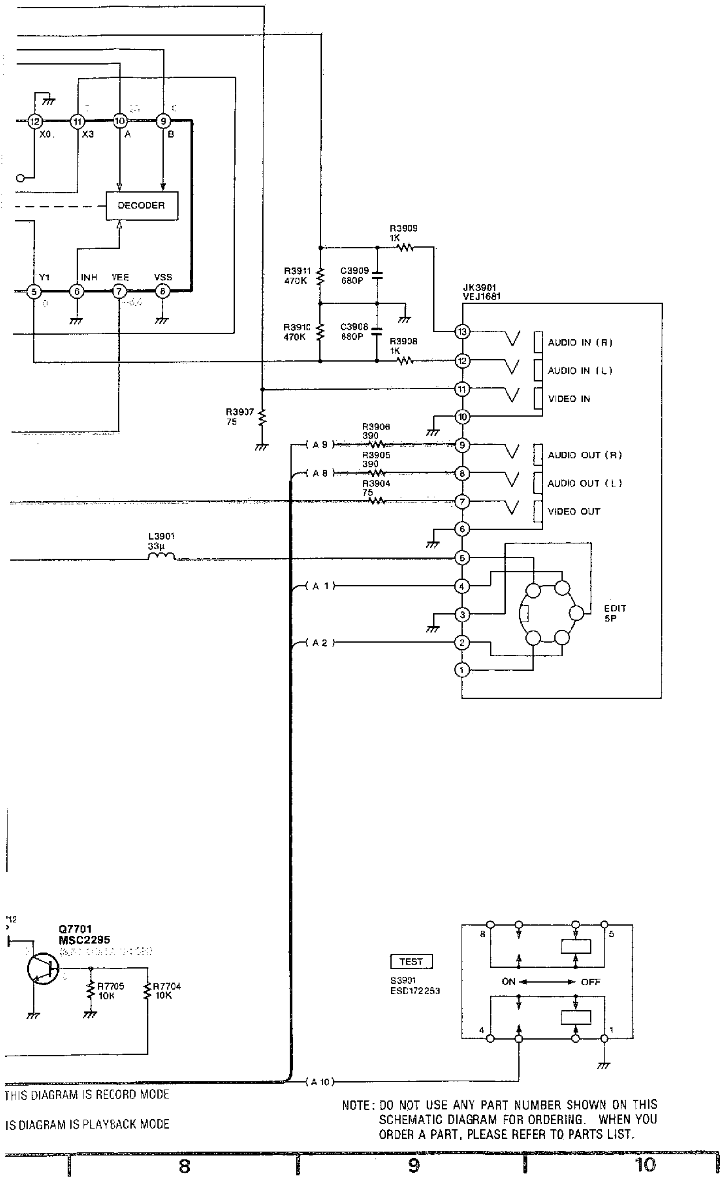


TO OPERATION
P6501
P3901
P6501 · 8
FRONT VIDEO IN
P6501 · 7
GND
P6501 · 6
GND
P6501 · 5
FRONT AUDIO IN (L)
P6501 · 4
REG 12V
P6501 · 3
FRONT AUDIO IN (R)
P6501 · 2
MIC Ⓗ
P6501 · 1
MIC IN
PS3901
FSC
GND
VIDEO IN
SYSTEM CTL 5V
TUNER VIDEO IN
GND
VIDEO OUT
NON SW -29V
3,58 CONV. Ⓗ
5P S.CLOCK
5P S.DATA
REG 12V
MIC Ⓗ
MIC IN
TO LUMINANCE/
CHROMINANCE &
AUDIO SECTION
PP3901
PS3902
RF VIDEO OUT
GND
AUDIO OUT (L)
AUDIO OUT (R)
GND
AUDIO IN (L)
AUDIO IN (R)
TEST Ⓛ
TIMER BUS TLK
IC CLOCK
OSD CS
INPUT SEL A
INPUT SEL B
HSS
TO LUMINANCE/
CHROMINANCE &
AUDIO SECTION
PP3902
A 1
A 2
A 8
A 9
A10
C3910
0.1
C3911
16V47
L3903
100μ
IC3901
MC14051BF
VDD
X2
X1
X0
X3
A
B
C
DECODER
X4
X6
X
X7
X5
INH
VEE
VSS
R3912
470K
IC3902
MC14052BF
VDD
X2
X1
X
X0.
X3
A
B
DECODER
Y0
Y2
Y
Y3
Y1
INH
VEE
VSS
R3913
470K
R3911
470K
C3909
680P
R3910
470K
C3908
680P
R3907
75
R3906
390
R3905
390
R3904
75
R3903
22K
C3905
16V47
C3904
0.1
D3901
MA4056M
C3903
6V470
L3901
33μ
L3902
68μ
R3902
470
C3901
16V47
C3902
0.01
L7704
33μ
C7717
6V47
C7716
0.01
R3901
470
Q3901
2SB709A
(BUFFER)
IC7701
UPD6464CS505
VBSI
VCUT
SECAM
VBSO
NRE
TEST
NC
CSYNI
VSYO
HSYO
VOBL
VO
CLK
CS
DATA
VDD
OSD OUT
OSD IN
PCL
GND
FSCI
FSCO
XOSD
XOSI
L7703
33μ
C7710
6V47
C7711
0.01
C7709
30P
L7702
33μ
C7708
10P
C7706
0.01
C7707
6V22
C7701
50V1
C7705
0.01
C7702
2200P
R7703
5100
R7701
1500
R7702
100K
C7704
1000P
L7701
4.7μ
C7703
18P
D7701
SVC251SPA
C7712
47P
Q7701
MSC2295
R7705
10K
R7704
10K
E
D
C
B
A
1
2
3
4
5
6
7
8

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: D
S
0

N REC MODE ······ AUDIO MAIN SIGNAL PATH IN REC MODE
N PLAYBACK MODE ······ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



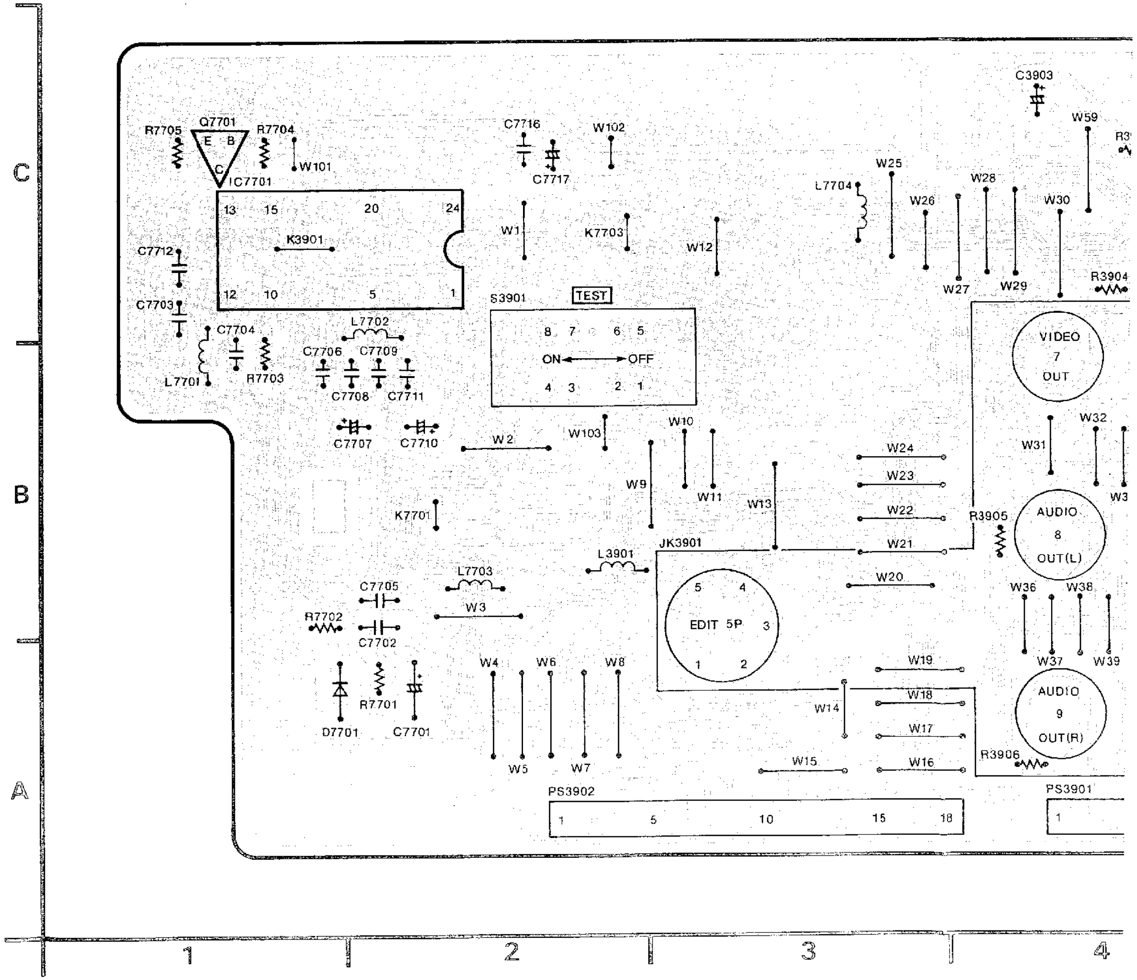
12
11
10
9
X0.
X3
A
B
DECODER
Y1
INH
VEE
VSS
5
6
7
8
R3909
1K
R3911
470K
C3909
680P
R3910
470K
C3908
680P
R3908
1K
JK3901
VEJ1681
AUDIO IN (R)
AUDIO IN (L)
VIDEO IN
R3907
75
R3906
390
R3905
390
R3904
75
A 9
A 8
AUDIO OUT (R)
AUDIO OUT (L)
VIDEO OUT
L3901
33µ
A 1
A 2
EDIT
5P
Q7701
MSC2295
R7705
10K
R7704
10K
TEST
S3901
ESD172253
ON
OFF
A 10
8
9
10

THIS DIAGRAM IS RECORD MODE

IS DIAGRAM IS PLAYBACK MODE

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

18. INPUT/OUTPUT PACK C.B.A. (VEP03B27H: NV-HD650MK2A)

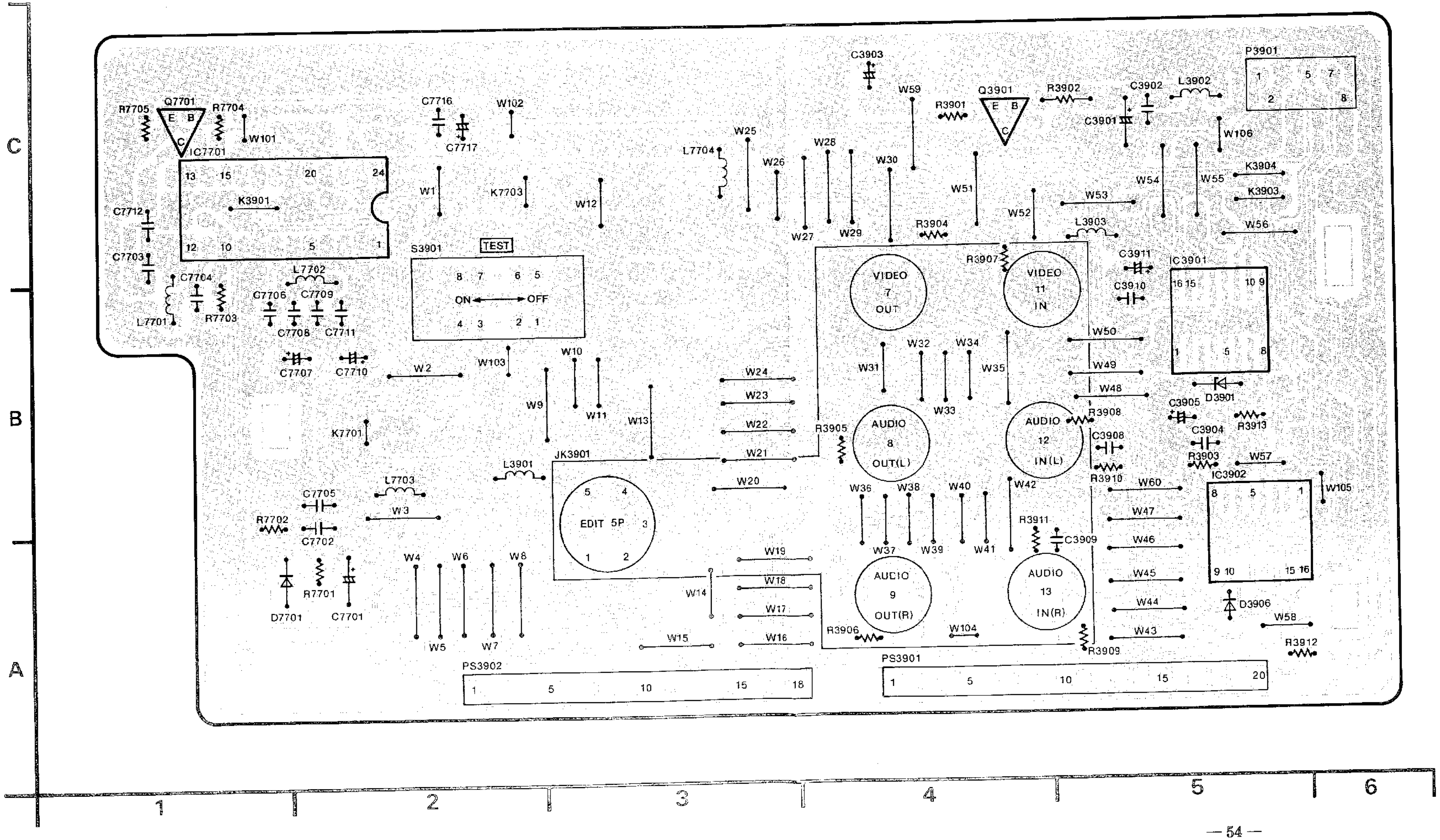


C
B
A
C3903
W59
R7705
Q7701
E
B
C
R7704
W101
IC7701
C7716
C7717
W102
W25
W28
L7704
W26
W30
13
15
20
24
K3901
12
10
5
1
W1
K7703
W12
C7712
C7703
W27
W29
R3904
S3901
TEST
8
7
6
5
ON
OFF
4
3
2
1
VIDEO
7
OUT
L7702
C7704
C7706
C7709
L7701
R7703
C7708
C7711
C7707
C7710
W2
W103
W10
W32
W31
W24
W23
W9
W11
W13
W22
K7701
JK3901
W21
R3905
AUDIO
8
OUT(L)
L3901
L7703
C7705
W3
EDIT 5P
W20
W36
W38
R7702
C7702
W4
W6
W8
W19
W37
W39
D7701
R7701
C7701
W14
W18
AUDIO
9
OUT(R)
W17
W5
W7
W15
W16
R3906
PS3902
PS3901
1
5
10
15
18
1
2
3
4

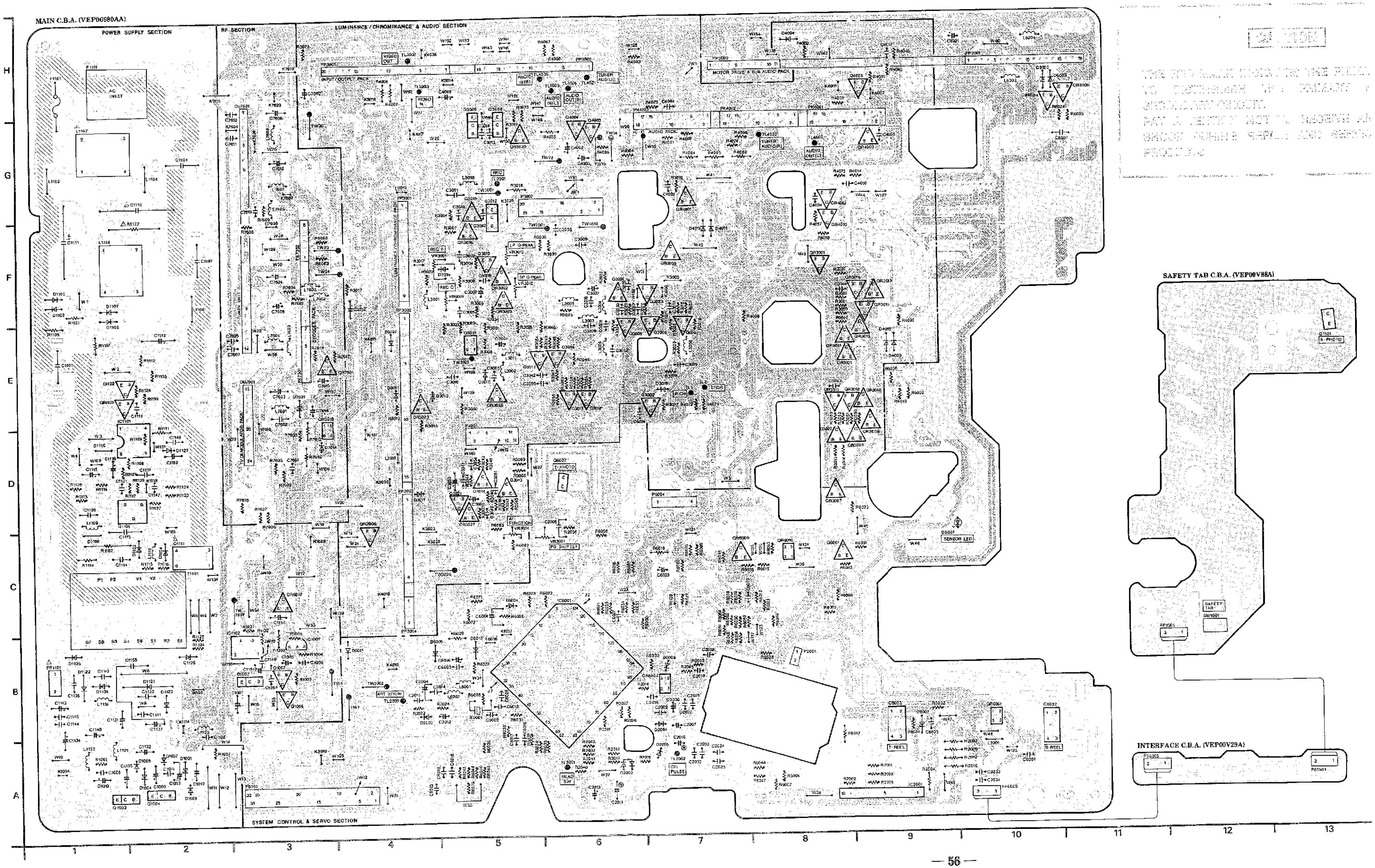
18. INPUT/OUTPUT PACK C.B.A. (VEP03B27H: NV-HD650MK2A)

INPUT/OUTPUT PACK C.B.A.	
Transistor	
Q3901	C-4
Q7701	C-1
Integrated Circuit	
IC3901	B-5
IC3902	B-5
IC7701	C-1
Connector	
P3901	C-5
PS3901	A-4
PS3902	A-2

ADDRESS INFORMATION


C
B
A
1
2
3
4
5
6
R7705
Q7701
E B C
R7704
W101
IC7701
13 15 20 24
K3901
12 10 5 1
C7712
C7703
C7704
L7701
R7703
L7702
C7706
C7709
C7708
C7711
C7707
C7710
C7716
C7717
W102
W1
K7703
W12
S3901
TEST
8 7 6 5
ON OFF
4 3 2 1
W2
W103
W10
W9
W11
W13
K7701
L7703
W3
C7705
R7702
C7702
D7701
R7701
C7701
W4
W5
W6
W7
W8
L3901
JK3901
EDIT 5P
5 4 3 1 2
PS3902
1 5 10 15 18
L7704
W25
W26
W27
W28
W29
W30
W24
W23
W22
W21
W20
W19
W18
W17
W16
W15
W14
C3903
W59
R3901
Q3901
R3902
C3902
C3901
L3902
P3901
1 5 7 2 8
W106
K3904
K3903
W56
W55
W54
W53
W51
W52
L3903
R3904
R3907
VIDEO 7 OUT
VIDEO 11 IN
C3911
C3910
IC3901
16 15 10 9
1 5 8
W50
W49
W48
D3901
C3905
R3913
C3904
R3903
W57
W31
W32
W33
W34
W35
R3905
AUDIO 8 OUT(L)
AUDIO 12 IN(L)
R3908
C3908
R3910
W60
IC3902
8 5 1
9 10 15 16
W105
W36
W37
W38
W39
W40
W41
W42
R3911
C3909
W47
W46
W45
W44
W43
AUDIO 9 OUT(R)
AUDIO 13 IN(R)
R3906
W104
R3909
D3906
W58
R3912
PS3901
1 5 10 15 20

19. MAIN C.B.A. (VEP06980AA: NV-HD650MK2A)


MAIN C.B.A. (VEP06980AA)
POWER SUPPLY SECTION
RF SECTION
LUMINANCE / CHROMINANCE & AUDIO SECTION
SYSTEM CONTROL & SERVO SECTION
AC INLET
INPUT/OUTPUT PACK
MOTOR DRIVE & SUB AUDIO PACK
AUDIO PACK
TUNER UNIT
T-PHOTO
SENSOR LED
T-REEL
S-REEL
HEAD SW
CTL PULSE
IC6001
SAFETY TAB C.B.A. (VEP00V88A)
S-PHOTO
SAFETY TAB
SW1501
INTERFACE C.B.A. (VEP00V29A)
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

C[illegible]TION

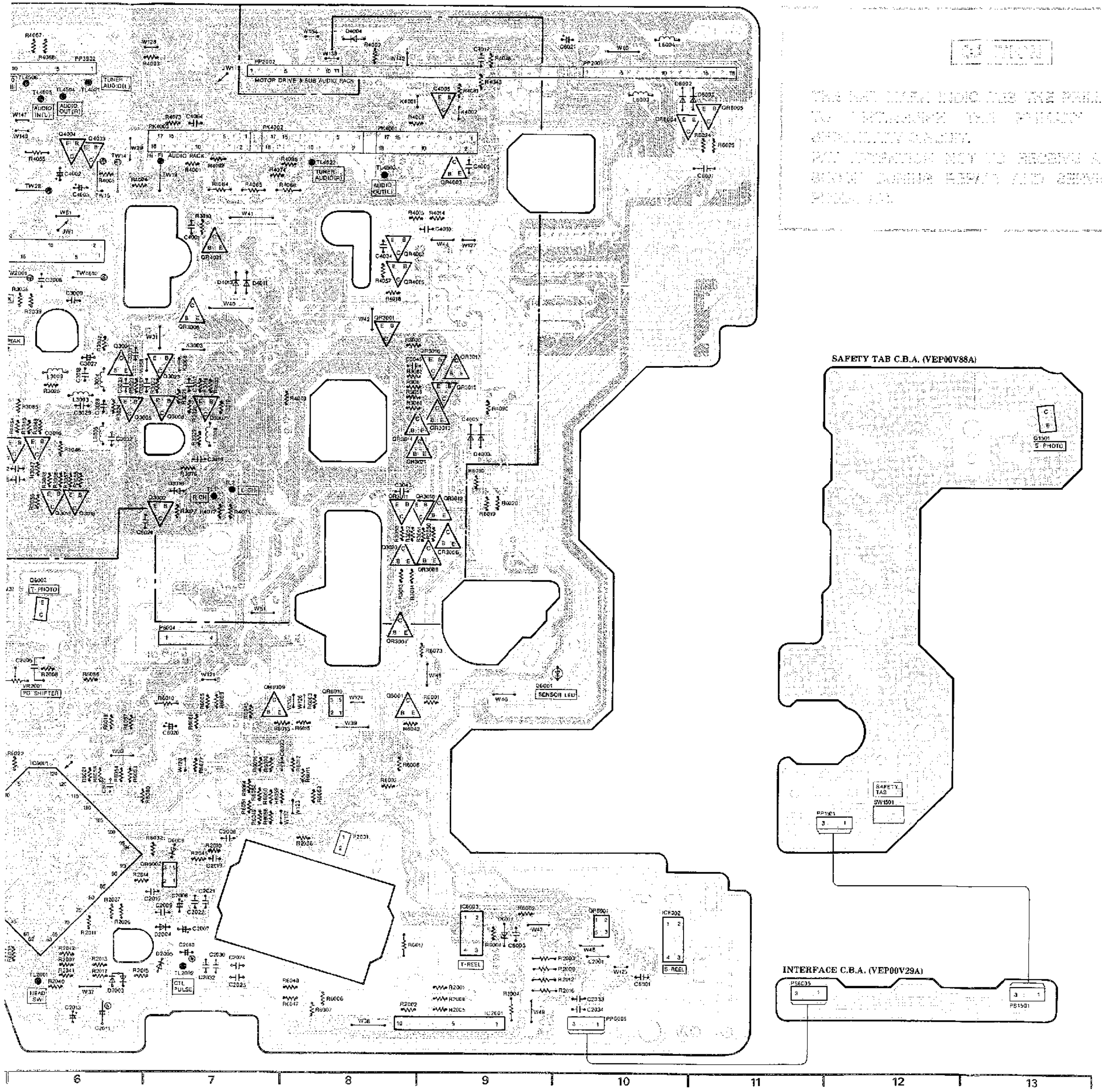
[illegible]

AUXILIARY CIRCUIT.

PAY [illegible] NOT [illegible] RECEIVE AN

SHOCK DURING REPAIR AND SERVIC[illegible]

PROCEDURE


MOTOR DRIVE & SUB AUDIO RACK
AUDIO RACK
TUNER AUDIO(L)
TUNER AUDIO(R)
AUDIO OUT(R)
AUDIO OUT(L)
AUDIO IN(L)
T-PHOTO
FG SHIFTER
SENSOR LED
T-REEL
S-REEL
CTL PULSE
HEAD SW
SAFETY TAB C.B.A. (VEP00V88A)
S-PHOTO
SAFETY TAB
SW1501
PP1501
INTERFACE C.B.A. (VEP00V29A)
PS6005
PS1501
PP6005
6
7
8
9
10
11
12
13

[illegible]

POWER SUPPLY SECTION	
Transistor	
Q1002	B-3
Q1003	A-1
Q1004	A-2
Q1006	B-3
Q1007	B-3
Q1101	D-2
Q1102	E-1
Q1111	C-2
Transistor & Resistor	
QR1101	E-1
Integrated Circuit	
IC1001	B-3
IC1101	D-2
IC1102	B-3

ADDRESS INFORMATION

SYSTEM CONTROL & SERVO SECTION			
Transistor		**Test Point**	
Q1501	E-13	TL2001	A-6
Q6001	C-8	TL2002	A-7
Q6002	D-6	TL2009	B-4
		TW7	B-4
Transistor & Resistor		TW2001	F-6
QR6001	B-10	TW2002	B-4
QR6002	B-7	**Adjustment**	
QR6004	H-10	VR2001	C-6
QR6005	H-11	**Connector**	
QR6009	C-7	P2001	B-8
QR6010	C-8	P6001	A-3
QR6012	C-3	P6004	D-7
Integrated Circuit		PP1501	B-12
IC2001	A-8	PP2001	H-10
IC6001	C-6	PP2002	H-7
IC6002	B-10	PP6005	A-10
IC6003	B-9	PS1501	A-13
		PS6005	A-11

ADDRESS INFORMATION

RF SECTION	
Transistor & Resistor	
QR7601	E-4
Test Point	
TW23	F-3
TW24	F-3
TW30	G-3
TW7601	C-3
Connector	
PK7301	E-3
PK7302	F-3

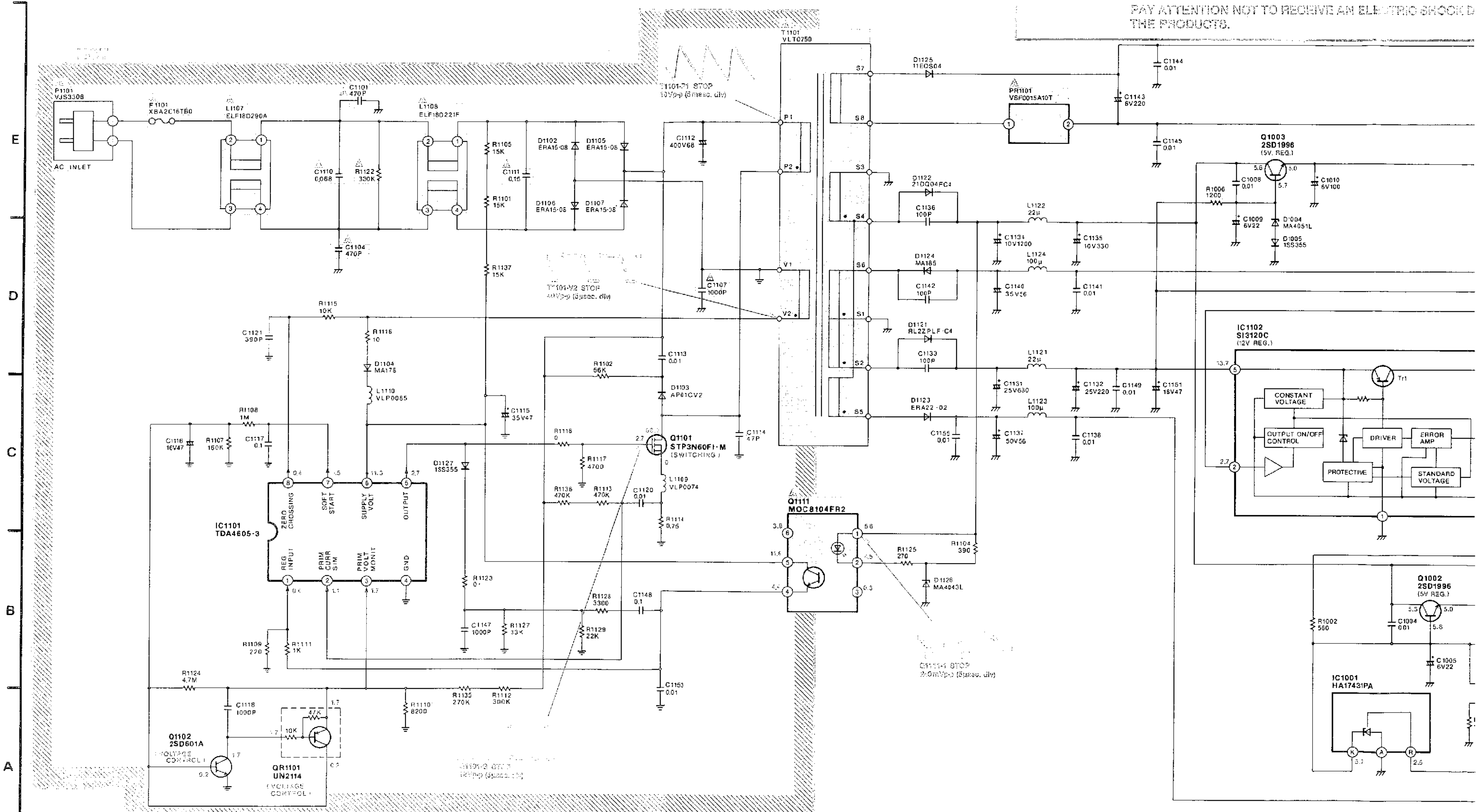
ADDRESS INFORMATION

LUMINANCE/CHROMINANCE & AUDIO SECTION			
Transistor		QR3027	D-5
		QR4001	G-7
Q3001	E-5	QR4002	G-8
Q3002	E-7	QR4003	G-9
Q3004	F-6	QR4005	F-8
Q3005	E-6	**Test Point**	
Q3006	E-7	TL1	E-7
Q3007	E-7	TL2	E-7
Q3008	G-5	TL3001	G-5
Q3009	G-5	TL3002	H-4
Q3010	F-5	TL3003	H-4
Q3011	G-5	TL4503	G-8
Q3012	G-5	TL4504	H-6
Q3013	D-5	TL4505	H-6
Q3014	D-5	TL4506	H-6
Q3016	E-6	TL4521	H-6
Q3017	E-5	TL4522	G-8
Q3018	E-6	TW4	B-3
Q3019	E-6	TW14	G-6
Q3020	D-8	TW15	G-6
Q3021	D-5	TW19	G-7
Q3023	F-7	TW28	G-6
Q4003	G-6	TW3001	G-5
Q4004	G-6	TW3025	E-5
Q4005	H-9	TW3026	C-5
Transistor & Resistor		TW4510	F-6
QR3001	F-8	**Adjustment**	
QR3002	F-5	VR3001	F-5
QR3003	F-5	VR3012	F-5
QR3005	F-7	VR3013	F-5
QR3006	C-4	VR3014	C-5
QR3007	D-8	VR6001	F-5
QR3008	D-9	**Connector**	
QR3009	D-9	P3002	G-5
QR3010	E-9	P4001	D-5
QR3011	E-8	PP3001	G-4
QR3012	E-9	PP3002	E-4
QR3013	E-9	PP3003	D-4
QR3014	E-8	PP3004	C-4
QR3015	F-9	PP3901	H-4
QR3016	F-9	PP3902	H-6
QR3017	F-9	PK4001	G-8
QR3018	F-5	PK4002	G-7
QR3019	D-3	PK4003	G-7
QR3020	G-5		
QR3021	E-8		
QR3023	E-4		
QR3026	E-5		

ADDRESS INFORMATION

20 POWER SUPPLY SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A)

CAUTION THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DI
THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK D
THE PRODUCTS.


P1101
VJS3308
AC INLET
F1101
XBA2C16TB0
L1107
ELF18D290A
C1101
470P
L1108
ELF18D221F
C1110
0.068
R1122
330K
C1104
470P
R1105
15K
C1111
0.15
R1101
15K
D1102
ERA15-08
D1105
ERA15-06
D1106
ERA15-06
D1107
ERA15-06
C1112
400V68
T1101
VLT0750
T1101-P1 STOP
R1137
15K
T1101-V2 STOP
C1107
1000P
R1115
10K
C1121
390P
R1116
10
D1104
MA175
L1110
VLP0065
C1113
0.01
R1102
56K
D1103
AP01CV2
C1115
35V47
R1108
1M
C1116
16V47
R1107
160K
C1117
0.1
IC1101
TDA4605-3
ZERO CROSSING
SOFT START
SUPPLY VOLT
OUTPUT
REG INPUT
PRIM CURR SIM
PRIM VOLT MONIT
GND
D1127
1SS355
R1118
0
R1117
4700
Q1101
STP3N60FI-M
(SWITCHING)
C1114
47P
R1136
470K
R1113
470K
C1120
0.01
L1109
VLP0074
R1114
0.75
R1123
0
R1128
3300
C1148
0.1
C1147
1000P
R1127
33K
R1129
22K
R1109
220
R1111
1K
R1124
4.7M
C1118
1000P
R1110
8200
R1135
270K
R1112
300K
C1153
0.01
Q1102
2SD601A
(VOLTAGE CONTROL)
QR1101
UN2114
(VOLTAGE CONTROL)
47K
10K
Q1111
MOC8104FR2
R1125
270
R1104
390
D1126
MA4043L
Q1111 STOP
D1125
11EQS04
PR1101
VSF0015A10T
C1144
0.01
C1143
6V220
C1145
0.01
D1122
21DQ04FC4
C1136
100P
L1122
22μ
C1134
10V1200
C1135
10V330
D1124
MA185
L1124
100μ
C1142
100P
C1140
35V56
C1141
0.01
D1121
RL2ZPLF-C4
C1133
100P
L1121
22μ
C1131
25V680
C1132
25V220
C1149
0.01
C1151
16V47
D1123
ERA22-02
L1123
100μ
C1155
0.01
C1137
50V56
C1138
0.01
Q1003
2SD1996
(5V REG.)
C1008
0.01
C1010
6V100
R1006
1200
C1009
6V22
D1004
MA4051L
D1005
1SS355
IC1102
SI3120C
(12V REG.)
Tr1
CONSTANT VOLTAGE
OUTPUT ON/OFF CONTROL
DRIVER
ERROR AMP
PROTECTIVE
STANDARD VOLTAGE
Q1002
2SD1996
(5V REG.)
R1002
560
C1004
0.01
C1005
6V22
IC1001
HA17431PA
S7
S8
S3
S4
S6
S1
S2
S5
P1
P2
V1
V2
E
D
C
B
A
1
2
3
4
5
6
7
8
9

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

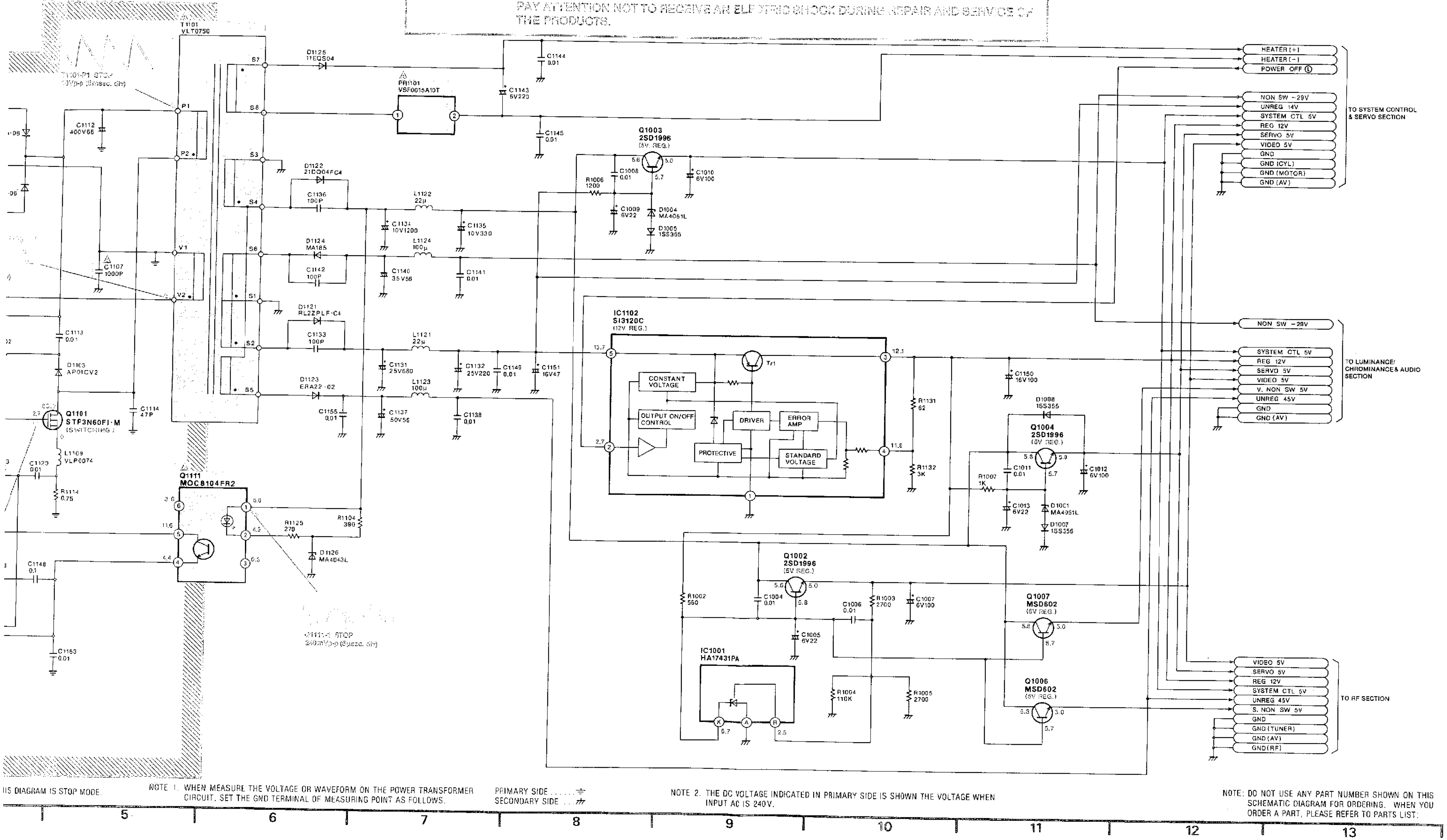
NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.

PRIMARY SIDE ...... ⏚
SECONDARY SIDE ... ⏚

NOTE 2. THE DC VOLTAGE INDICATED IN PRI
INPUT AC IS 240V.

M (NV-HD650MK2A)

CAUTION THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.


T1101
VLT0750
T1101-P1 STOP
Q1101 STP3N60FI-M (SWITCHING)
L1109 VLP0074
C1112 400V68
C1107 1000P
C1113 0.01
D1103 AP01CV2
C1114 47P
C1120 0.01
R1114 0.75
C1148 0.1
C1153 0.01
Q1111 MOC8104FR2
Q1111-1 STOP
240mVp-p (5μsec. div)
R1125 270
R1104 390
D1126 MA4043L
D1125 11EQS04
PR1101 VSF0015A10T
C1143 6V220
C1144 0.01
C1145 0.01
D1122 21DQ04FC4
C1136 100P
L1122 22μ
C1134 10V1200
C1135 10V330
D1124 MA185
C1142 100P
L1124 100μ
C1140 35V56
C1141 0.01
D1121 RL2ZPLF-C4
C1133 100P
L1121 22μ
C1131 25V680
C1132 25V220
C1149 0.01
C1151 16V47
D1123 ERA22-02
C1155 0.01
L1123 100μ
C1137 50V56
C1138 0.01
Q1003 2SD1996 (5V REG.)
R1006 1200
C1008 0.01
C1010 6V100
C1009 6V22
D1004 MA4051L
D1005 1SS355
IC1102 SI3120C (12V REG.)
CONSTANT VOLTAGE
OUTPUT ON/OFF CONTROL
DRIVER
ERROR AMP
PROTECTIVE
STANDARD VOLTAGE
Tr1
R1131 62
R1132 3K
C1150 16V100
D1008 1SS355
Q1004 2SD1996 (5V REG.)
R1007 1K
C1011 0.01
C1012 6V100
C1013 6V22
D1001 MA4051L
D1007 1SS355
Q1002 2SD1996 (5V REG.)
R1002 560
C1004 0.01
R1003 2700
C1007 6V100
C1006 0.01
C1005 6V22
IC1001 HA17431PA
R1004 110K
R1005 2700
Q1007 MSD602 (5V REG.)
Q1006 MSD602 (5V REG.)
HEATER (+)
HEATER (-)
POWER OFF
NON SW -29V
UNREG 14V
SYSTEM CTL 5V
REG 12V
SERVO 5V
VIDEO 5V
GND
GND (CYL)
GND (MOTOR)
GND (AV)
TO SYSTEM CONTROL & SERVO SECTION
NON SW -29V
SYSTEM CTL 5V
REG 12V
SERVO 5V
VIDEO 5V
V. NON SW 5V
UNREG 45V
GND
GND (AV)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
VIDEO 5V
SERVO 5V
REG 12V
SYSTEM CTL 5V
UNREG 45V
S. NON SW 5V
GND
GND (TUNER)
GND (AV)
GND (RF)
TO RF SECTION
5
6
7
8
9
10
11
12
13

IS DIAGRAM IS STOP MODE.

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.

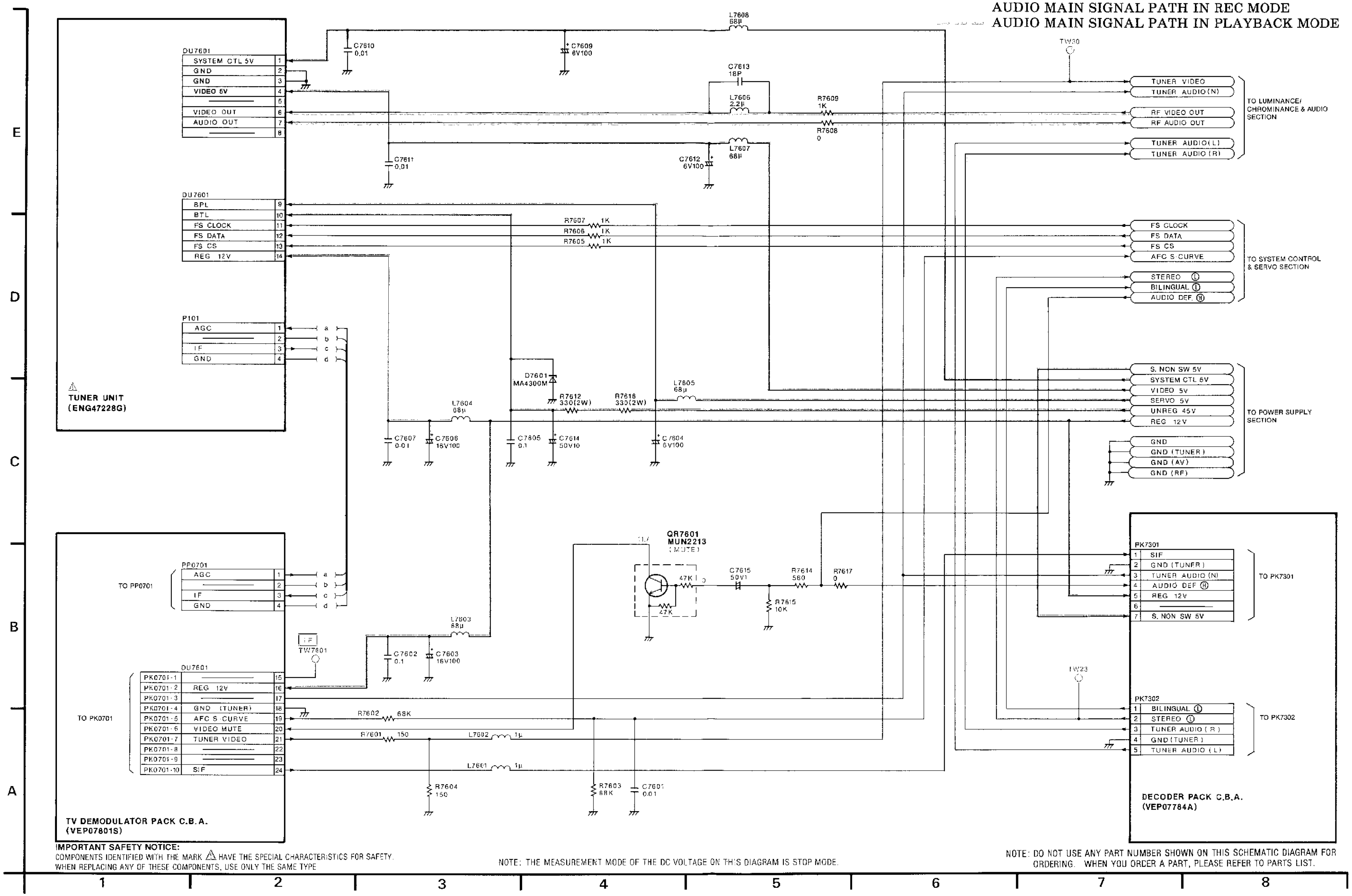
PRIMARY SIDE ...... ⏚
SECONDARY SIDE ... ⫽

NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 240V.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

21. RF SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A)

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


E
D
C
B
A
1
2
3
4
5
6
7
8
DU7601
SYSTEM CTL 5V
GND
GND
VIDEO 5V
VIDEO OUT
AUDIO OUT
BPL
BTL
FS CLOCK
FS DATA
FS CS
REG 12V
P101
AGC
IF
GND
a
b
c
d
TUNER UNIT
(ENG47228G)
C7610 0.01
C7609 6V100
L7608 68µ
C7613 18P
L7606 2.2µ
R7609 1K
R7608 0
C7611 0.01
C7612 6V100
L7607 68µ
TW30
TUNER VIDEO
TUNER AUDIO (N)
RF VIDEO OUT
RF AUDIO OUT
TUNER AUDIO (L)
TUNER AUDIO (R)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
R7607 1K
R7606 1K
R7605 1K
FS CLOCK
FS DATA
FS CS
AFC S CURVE
STEREO ①
BILINGUAL ①
AUDIO DEF. Ⓗ
TO SYSTEM CONTROL & SERVO SECTION
D7601 MA4300M
R7612 330(2W)
R7616 330(2W)
L7605 68µ
L7604 68µ
C7607 0.01
C7606 16V100
C7605 0.1
C7614 50V10
C7604 6V100
S. NON SW 5V
SYSTEM CTL 5V
VIDEO 5V
SERVO 5V
UNREG 45V
REG 12V
TO POWER SUPPLY SECTION
GND
GND (TUNER)
GND (AV)
GND (RF)
PP0701
AGC
IF
GND
TO PP0701
QR7601 MUN2213 (MUTE)
47K
47K
C7615 50V1
R7614 560
R7617 0
R7615 10K
L7603 68µ
IF
TW7601
C7602 0.1
C7603 16V100
DU7601
PK0701-1
PK0701-2
PK0701-3
PK0701-4
PK0701-5
PK0701-6
PK0701-7
PK0701-8
PK0701-9
PK0701-10
REG 12V
GND (TUNER)
AFC S CURVE
VIDEO MUTE
TUNER VIDEO
SIF
TO PK0701
R7602 68K
R7601 150
L7602 1µ
L7601 1µ
R7604 150
R7603 68K
C7601 0.01
TV DEMODULATOR PACK C.B.A.
(VEP07801S)
PK7301
SIF
GND (TUNER)
TUNER AUDIO (N)
AUDIO DEF Ⓗ
REG 12V
S. NON SW 5V
TO PK7301
TW23
PK7302
BILINGUAL ①
STEREO ①
TUNER AUDIO (R)
GND (TUNER)
TUNER AUDIO (L)
TO PK7302
DECODER PACK C.B.A.
(VEP07784A)

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10										
STOP	4.9	14.3	14.3	0	0	0	7.3	9.4	5.2	0										
PLAY	5.8	14.1	14.1	0	0	0	7.4	9.3	3.3	0										
REC	1.8	14.1	14.1	0	0	0	7.4	9.3	2.2	0										
F.F	5.1	14.1	14.1	0	0	0	14.1	9.3	4.8	0										
REW	4.1	14.1	14.1	0	0	0	14.1	9.3	4.2	0										

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.9	0	0	0	0	0	4.9	4.8	0	4.8	0	0	0	0	0	0	0	0	4.8	0
PLAY	0.5	0	0	0	4.9	0	4.9	4.8	0	4.8	0	0	0	0	0	0	0	0	4.8	0
REC	4.9	0	0	0	0	0	4.9	4.8	0	4.8	0	0	4.9	4.9	0	4.9	0	0	0	0
F.F	4.9	0	0	0	0	0	4.9	0	0	0	0	0	0	0	0	0	0	0	0	0
REW	4.9	0	0	0	0	0	4.9	0	0	0	0	0	0	0	0	0	0.8	0	0	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	4.9	0	0	0	0	4.9	0.1	0	4.9	4.9	4.9	4.9	4.9	–	–	4.7
PLAY	0	0	0	0	4.8	0	0	0	0	4.8	0.1	0	4.9	4.8	4.9	4.8	4.9	–	–	4.7
REC	0	0	0	0	4.8	0	0	0	0	0	4.8	0	4.9	4.9	4.9	4.8	4.9	–	–	4.7
F.F	0	0	0	0	4.9	0	0	0	0	4.9	0.1	0	4.9	4.9	4.9	4.8	4.9	–	–	4.7
REW	0	0	0	0	4.9	0	0	0	4.9	4.9	0.1	0	4.9	4.9	4.9	4.8	4.9	–	–	4.7

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	0	0	0	0	0	0	0	0	4.7	4.5	4.0	4.7	4.9	4.7	2.0	0	0	1.3
PLAY	0	0	0	0	0	0	0	0	0	3.7	4.7	4.6	4.0	4.7	4.8	4.8	0	4.8	0	1.3
REC	0	0	4.9	4.9	4.9	0	0	0	0	0	4.6	4.5	4.0	4.8	4.7	4.7	0	4.9	4.9	2.5
F.F	0	0	0	0	0	0	0	0	0	0	4.6	4.8	4.0	4.9	4.7	4.8	0	4.9	4.9	2.4
REW	0	0	0	0	0	0	0	0	0	0	4.6	4.7	3.9	4.9	4.7	4.8	4.9	4.9	4.9	2.4

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	4.9	0	0	3.9	0	2.4	0	3.3	4.9	0.1	2.4	2.4	1.3	0	0	2.4	2.4	2.3	2.5
PLAY	0	4.8	3.7	0	3.8	0	2.4	0	3.3	4.9	0.1	2.4	2.4	1.2	0	0	2.4	2.4	2.6	2.5
REC	0	4.7	4.8	0	4.6	0	2.4	0	3.5	4.9	4.9	2.3	2.4	1.4	0	0	2.4	2.4	2.3	2.5
F.F	0	4.8	0	0	2.5	0	2.4	0	3.5	3.4	2.7	2.4	2.4	1.0	0	0	2.4	2.4	2.8	2.3
REW	0	4.8	0	0	2.6	0	2.4	0	3.3	4.7	1.9	2.4	2.4	1.4	0	0	2.4	2.4	2.8	2.3

REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	4.9	0	0	0	2.5	2.4	0	0	2.4	4.9	1.4	2.3	4.9	5.0	4.9	4.9	5.0	5.1	0	0
PLAY	4.8	0	0	0	2.5	4.8	0	0	0.6	4.9	2.5	2.3	4.9	5.0	4.9	4.9	5.0	5.1	0	0
REC	4.8	3.5	3.7	0	2.4	2.4	0	0	2.4	4.9	2.5	2.3	4.9	5.0	4.8	4.8	5.0	5.1	0	0
F.F	4.8	0	0	0	2.4	2.4	0	0	2.4	4.9	2.4	2.3	4.9	4.9	4.7	4.9	5.0	5.1	0	0
REW	4.8	0	0	0	2.4	2.4	0	0	2.3	4.9	2.4	2.3	4.9	4.9	4.8	4.9	5.0	5.1	0	0

REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	2.5	3.3	4.6	0	1.8	5.0	4.8	4.9	0	0	0	1.2	2.3	4.9	0	0	5.0	4.9	0	0
PLAY	2.5	3.3	4.5	0	3.6	5.0	4.8	0.1	0	0	0	1.8	1.6	4.9	0	0	4.9	4.9	0	0
REC	2.5	3.3	5.1	0	1.0	5.0	4.8	0.1	0	0	0	2.3	2.3	4.9	0	0	4.9	4.9	0	0
F.F	2.5	3.3	4.5	0	1.6	5.0	4.8	0.1	0	0	0	0.9	0.9	4.9	0	4.9	4.9	4.9	0	0
REW	2.5	3.3	4.5	0	2.7	5.0	4.8	0.1	0	0	0	2.3	2.3	4.9	0	4.9	5.0	4.9	0	0

REF. NO.	IC6001																			
MODE	121	122	123	124																
STOP	0	0	0	4.9																
PLAY	0	0	0	4.9																
REC	0	0	0	4.9																
F.F	0	0	0	4.9																
REW	0	0	0	4.9																

REF. NO.	IC6002										IC6003									
MODE	1	2	3	4							1	2	3	4						
STOP	1.1	0	4.9	0							2.3	1.2	4.9	0						
PLAY	1.1	0	4.9	0							2.3	1.2	4.9	0						
REC	1.1	0	4.9	0							2.3	1.2	4.9	0						
F.F	1.2	0	2.2	0							2.3	1.2	2.5	0						
REW	1.2	0	2.6	0							2.3	1.2	2.8	0						

SYSTEM CONTROL & SERVO TR.s DC VOLTAGE CHART (SP MODE)

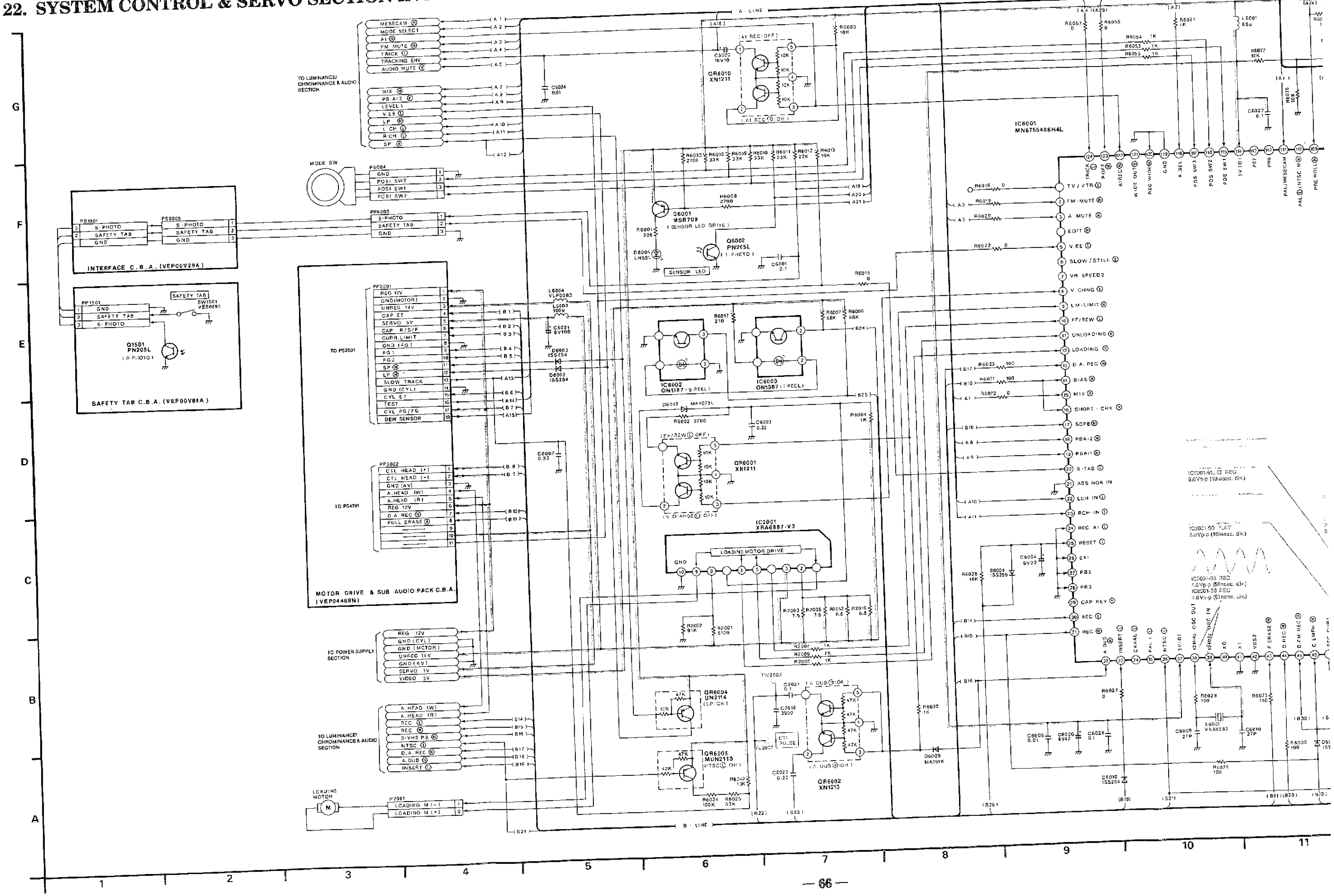
REF. NO.	Q1501			Q6001			Q6002											
MODE	E	C		E	C	B	E	C										
STOP	0	4.9		5.0	0.5	4.9	0	5.0										
PLAY	0	4.9		5.0	4.9	4.2	0	4.9										
REC	0	4.9		5.0	4.9	4.2	0	4.9										
F.F	0	4.8		5.0	4.9	4.2	0	4.9										
REW	0	4.8		5.0	4.9	4.2	0	4.9										

REF. NO.	QR6001						QR6002						QR6004			QR6005		
MODE	1	2	3	4	5		1	2	3	4	5		E	C	B	E	C	B
STOP	0	0	4.8	0	4.8		0	0	4.6	0	4.6		5.0	0.3	4.8	5.0	4.5	4.9
PLAY	0	0	4.8	0	4.8		0	0	4.6	0	4.6		5.0	0.3	4.8	5.0	4.4	4.8
REC	0	0	4.8	0	4.8		0	0	4.6	0	4.6		5.0	0.2	4.8	5.0	5.0	4.8
F.F	14.1	7.6	0	0	0		2.2	1.6	0	0	0		5.0	0.3	4.8	5.0	4.4	4.8
REW	14.1	8.4	0	0	0		2.8	2.2	0	0	0		5.0	0.3	4.8	5.0	4.4	4.8

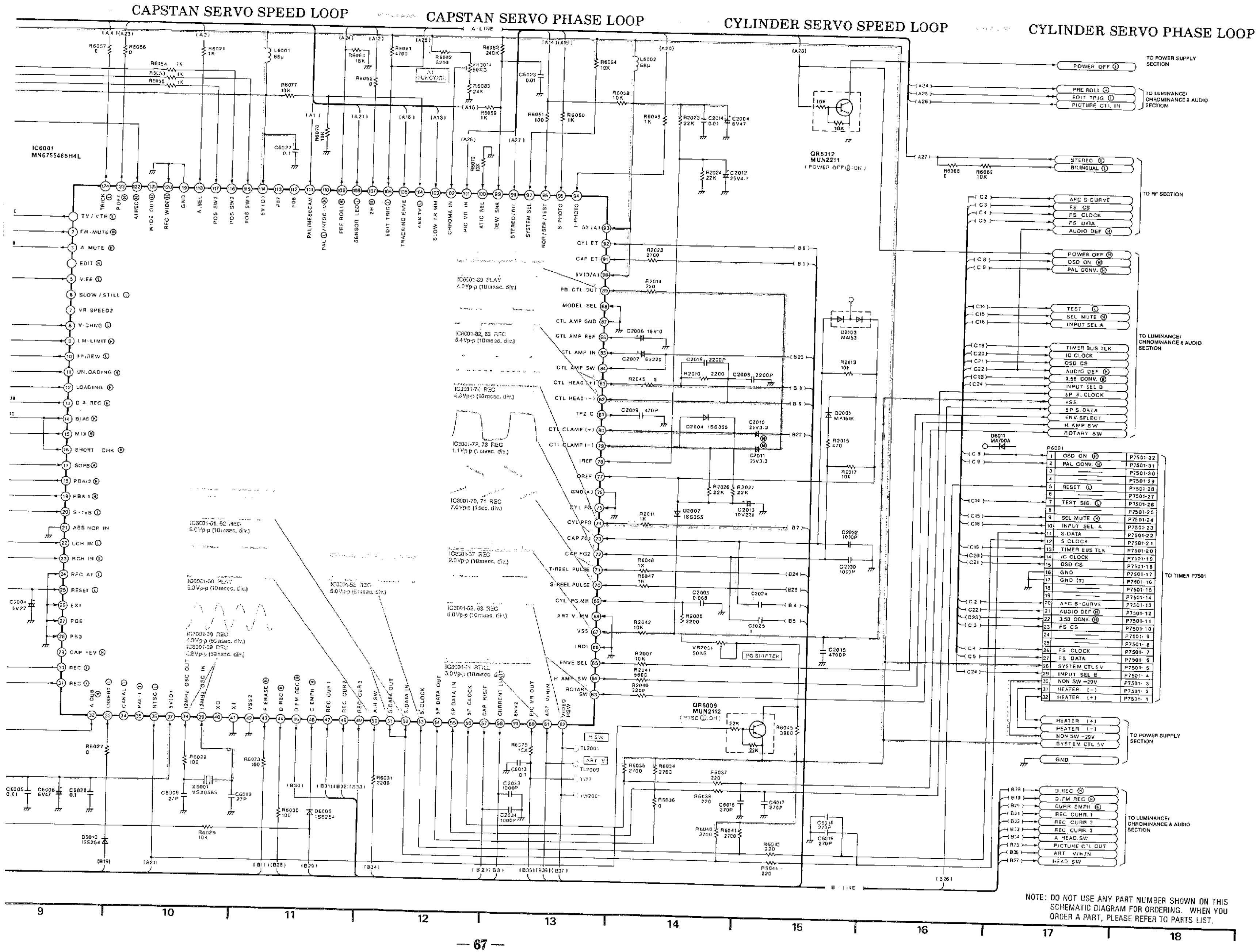
REF. NO.	QR6009			QR6010						QR6012								
MODE	E	C	B	1	2	3	4	5		E	C	B						
STOP	5.0	4.8	4.9	0	2.9	0	0	2.9		0	13.0	0						
PLAY	5.0	4.8	4.8	0	2.9	0	0	2.9		0	13.0	0						
REC	5.0	4.8	4.8	0	2.9	0	0	2.9		0	13.0	0						
F.F	5.0	4.8	4.8	0	2.9	0	0	2.9		0	13.0	0						
REW	5.0	4.6	4.8	0	2.9	0	0	2.9		0	13.0	0						

22. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A)

CAPSTAN SERVO SPEED LOOP

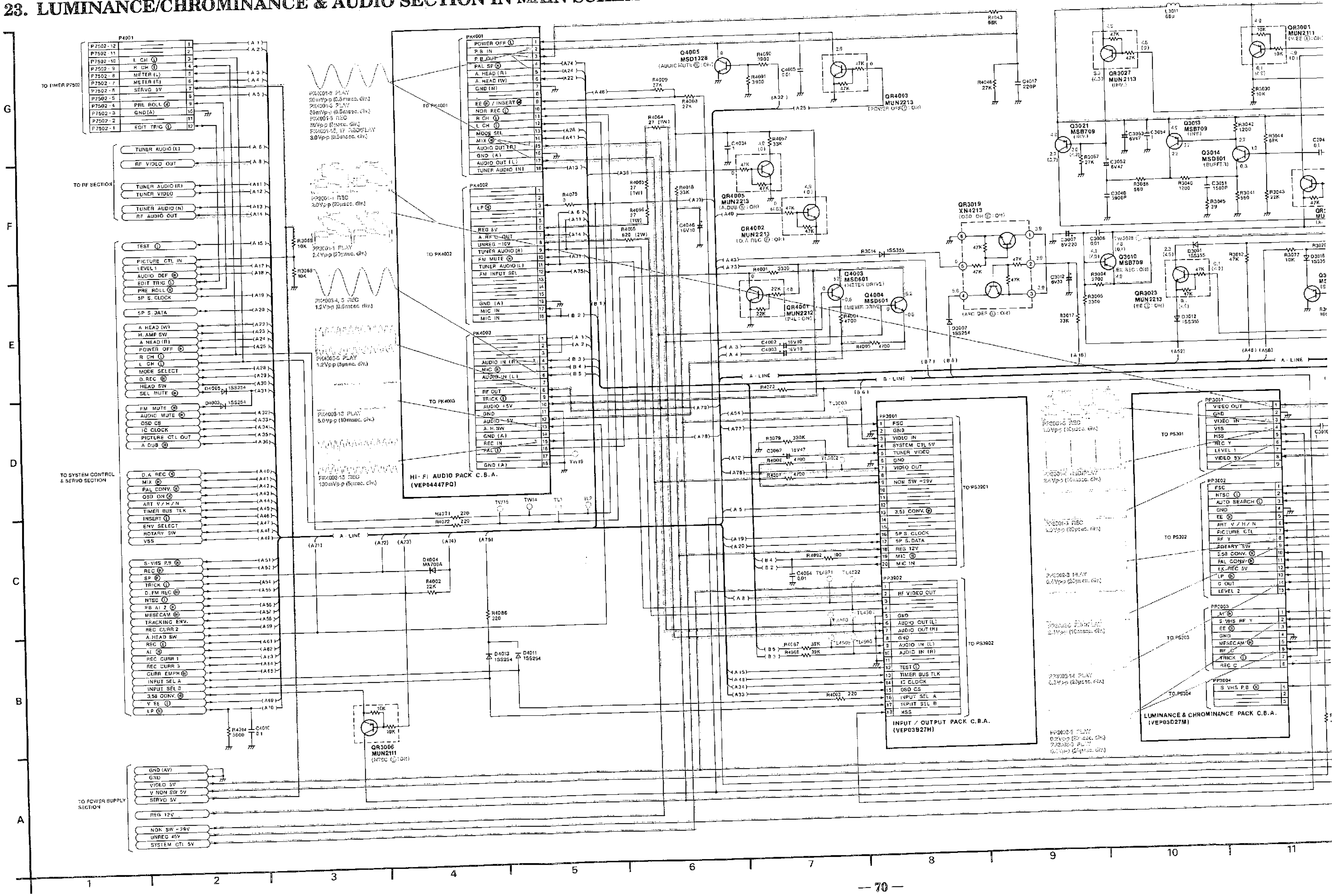


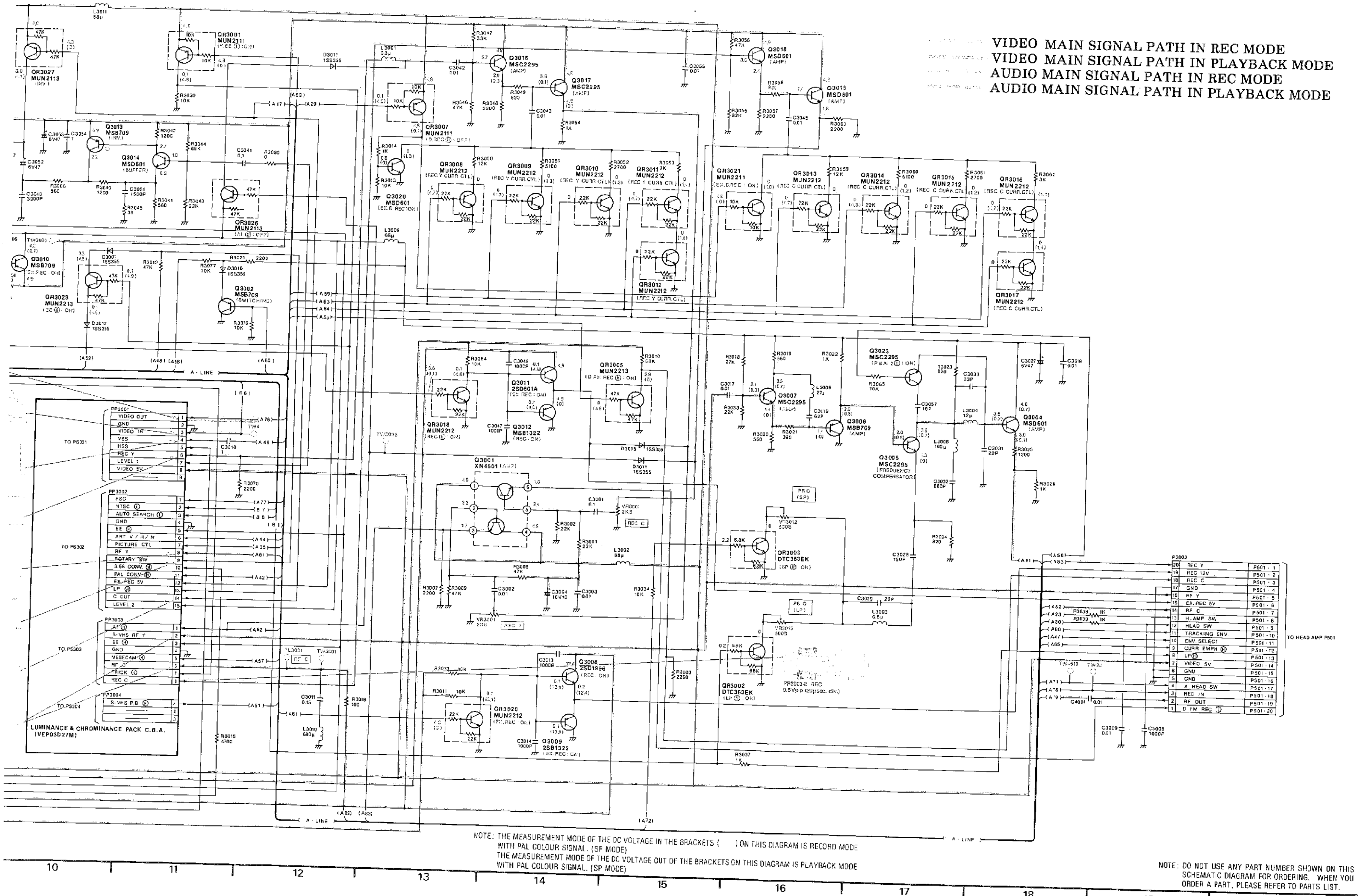
A - LINE
B - LINE
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
MESECAM Ⓗ
MODE SELECT
A1 Ⓗ
FM MUTE Ⓗ
TRICK Ⓛ
TRACKING ENV
AUDIO MUTE Ⓗ
MIX Ⓗ
PB A12 Ⓗ
LEVEL 1
V.EE Ⓛ
LP Ⓗ
L CH Ⓛ
R CH Ⓛ
SP Ⓗ
MODE SW
P6004
GND
POSI SW2
POSI SW1
POSI SW3
P6005
S-PHOTO
SAFETY TAB
GND
PS1501
PS6005
INTERFACE C.B.A. (VEP00V29A)
SAFETY TAB C.B.A. (VEP00V81A)
PP1501
SW1501 VES0091
Q1501 PN205L (S-PHOTO)
PP2001
REG 12V
GND(MOTOR)
UNREG 14V
CAP ET
SERVO 5V
CAP R/S/F
CURR. LIMIT
GND (FG)
FG1
FG2
SP Ⓗ
LP Ⓗ
SLOW TRACK
GND (CYL)
CYL ET
TEST
CYL PG/FG
DEW SENSOR
TO PS2501
PP2002
CTL HEAD (+)
CTL HEAD (-)
GND (AV)
A.HEAD (W)
A.HEAD (R)
REG 12V
D.A. REC Ⓗ
FULL ERASE Ⓗ
TO PS4701
MOTOR DRIVE & SUB AUDIO PACK C.B.A. (VEP04469N)
TO POWER SUPPLY SECTION
REG 12V
GND (CYL)
GND (MOTOR)
UNREG 14V
GND (AV)
SERVO 5V
VIDEO 5V
A.HEAD (W)
A.HEAD (R)
REC Ⓛ
REC Ⓗ
S-VHS PB Ⓗ
NTSC Ⓛ
D.A.REC Ⓗ
A.DUB Ⓛ
INSERT Ⓛ
LOADING MOTOR
P2001
LOADING M (-)
LOADING M (+)
C6024 0.01
L6004 VLP0083
C6021 6V100
D6003 1SS254
D6002 1SS254
C6007 0.33
QR6010 XN1211
Q6001 MSB709 (SENSOR LED DRIVE)
Q6002 PN205L (T-PHOTO)
D6001 LN59L
SENSOR LED
IC6002 ON1387 (S-REEL)
IC6003 ON1387 (T-REEL)
QR6001 XN1211
IC2001 XRA6887-V3
LOADING MOTOR DRIVE
GND
QR6004 UN2114 (LP:ON)
QR6005 MUN2113 (NTSC Ⓛ ON)
QR6002 XN1213
CTL PULSE
D6009 MA151K
IC6001 MN675548BH4L
TV/VTR Ⓛ
FM-MUTE Ⓗ
A MUTE Ⓗ
EDIT Ⓗ
V.EE Ⓛ
SLOW/STILL Ⓛ
VR SPEED2
V CHNG Ⓛ
LM-LIMIT Ⓗ
FF/REW Ⓛ
UNLOADING Ⓗ
LOADING Ⓗ
D.A. REC Ⓗ
BIAS Ⓗ
MIX Ⓗ
SHORT-CHK Ⓗ
SOPB Ⓗ
PBA12 Ⓗ
PBA11 Ⓗ
S-TAB Ⓛ
ABS NOR IN
LCH IN Ⓛ
RCH IN Ⓛ
REC A1 Ⓛ
RESET Ⓛ
EX1
PB5
PB3
CAP REV Ⓛ
REC Ⓛ
REC Ⓗ
D6004 1SS355
C6004 6V22
D6010 1SS254
X6001 VSX0163
IC6001-51, 52 REC 5.0Vp-p (10msec. div.)
IC6001-50 PLAY 5.0Vp-p (10msec. div.)
IC6001-38 REC 4.0Vp-p (50nsec. div.)
IC6001-39 REC 2.8Vp-p (50nsec. div.)


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
IC6001
MN675546BH4L
QR6012
MUN2211
QR6009
MUN2112
TO POWER SUPPLY SECTION
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
TO RF SECTION
TO TIMER P7501
P6001
A - LINE
B - LINE
9
10
11
12
13
14
15
16
17
18

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

23. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM (NV-HD650MK2A)


P4001
TO TIMER P7502
TO RF SECTION
TO SYSTEM CONTROL & SERVO SECTION
TO POWER SUPPLY SECTION
PK4001
PK4002
PK4003
TO PK4001
TO PK4002
TO PK4003
HI - FI AUDIO PACK C.B.A. (VEP04447PQ)
A - LINE
B - LINE
Q4005 MSD1328
QR4003 MUN2213
QR4005 MUN2213
QR4002 MUN2213
Q4003 MSD601
Q4004 MSD601
QR4001 MUN2212
QR3019 XN4213
QR3006 MUN2111
QR3027 MUN2113
QR3001 MUN2111
Q3021 MSB709
Q3013 MSB709
Q3014 MSD601
Q3010 MSB709
QR3023 MUN2213
PP3901
PP3902
TO PS3901
TO PS3902
INPUT / OUTPUT PACK C.B.A. (VEP03927H)
PP3001
PP3002
PP3003
PP3004
TO PS301
TO PS302
TO PS303
TO PS304
LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03D27M)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11


LUMINANCE & CHROMINANCE PACK C.B.A.
(VEP03D27M)
TO PS301
TO PS302
TO PS303
TO PS304
TO HEAD AMP P501
A - LINE
10
11
12
13
14
15
16
17
18
19
20

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

24. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE : Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS(uf), P=uuF.
4. The P.C. Board units marked width "■" show below the main assembled parts.
5. The marking (RTL) indicaters the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ ■	VEP06977P	MAIN C.B.A. (PAGE:73)	1	(RTL) NV-HD600MK2A IMCLUDING THE LUMI. & CHRO. PACK C.B.A. (VEP03B22P). HI-FI AUDIO PACK C.B.A. (VEP04447PM). OSD C.B.A. (VEP06979A). DECODER PACK C.B.A. (VEP07784A). TV DEMODULATOR PACK C.B.A. (VEP07801C).
■	VEP03B22P	LUMINANCE & CHROMINANCE PACK C.B.A.	1	(RTL) NV-HD600MK2A INCLUDED IN MAIN C.B.A. (VEP06977P).
■	VEP04447PM	HI-FI AUDIO PACK C.B.A.	1	(RTL) NV-HD600MK2A INCLUDED IN MAIN C.B.A. (VEP06977P).
■	VEP06979A	OSD C.B.A.	1	(RTL) NV-HD600MK2A INCLUDED IN MAIN C.B.A. (VEP06977P).
■	VEP07784A	DECODER PACK C.B.A.	1	(RTL) NV-HD600MK2A INCLUDED IN MAIN C.B.A. (VEP06977P).
■	VEP07801C	TV DEMODULATOR PACK C.B.A	1	(RTL) NV-HD600MK2A INCLUDED IN MAIN C.B.A. (VEP06977P).
⚠ ■	VEP06980AA	MAIN C.B.A. (PAGE:79)	1	(RTL) NV-HD650MK2A IMCLUDING THE LUMI. & CHRO. PACK C.B.A. (VEP03D27M). HI-FI AUDIO PACK C.B.A. (VEP04447PQ). DECODER PACK C.B.A. (VEP07784A). TV DEMODULATOR PACK C.B.A. (VEP07801S).
■	VEP03D27M	LUMINANCE & CHROMINANCE PACK C.B.A.	1	(RTL) NV-HD650MK2A INCLUDED IN MAIN C.B.A. (VEP06980AA). INCLUDING THE SQ PB C.B.A. (VEP03A03A).
■	VEP03A03A	SQ PB C.B.A.	1	(RTL) NV-HD650MK2A INCLUDED IN LUMI. & CHRO PACK C.B.A. (VEP03D27M).
■	VEP04447PQ	HI-FI AUDIO PACK C.B.A.	1	(RTL) NV-HD650MK2A INCLUDED IN MAIN C.B.A. (VEP06980AA).
■	VEP07784A	DECODER PACK C.B.A.	1	(RTL) NV-HD650MK2A INCLUDED IN MAIN C.B.A. (VEP06980AA).
■	VEP07801S	TV DEMODULATOR PACK C.B.A	1	(RTL) NV-HD650MK2A INCLUDED IN MAIN C.B.A. (VEP06980AA).
■	VEP03B27H	INPUT/OUTPUT C.B.A. (PAGE:86)	1	(RTL) NV-HD650MK2A
■	VEP04469G	MOTOR DRIVE C.B.A. (PAGE:87)	1	(RTL) NV-HD600MK2A
■	VEP04469N	MOTOR DRIVE C.B.A. (PAGE:87)	1	(RTL) NV-HD650MK2A
■	VEP05330A	HEAD AMP C.B.A. (PAGE:88)	1	(RTL) NV-HD600MK2A
■	VEP05227A	HEAD AMP C.B.A. (PAGE:89)	1	(RTL) NV-HD650MK2A
■	VEP07772X	TIMER C.B.A. (PAGE:89)	1	(RTL) NV-HD600MK2A
■	VEP07773N	TIMER C.B.A. (PAGE:90)	1	(RTL) NV-HD650MK2A
■	VEP06995C	POWER SWITCH C.B.A. (PAGE:91)	1	(RTL) NV-HD650MK2A
■	VEP00U88A	MAIN INTERFACE C.B.A. (PAGE:91)	1	(RTL) NV-HD600MK2A
■	VEP00V29A	MAIN INTERFACE C.B.A. (PAGE:91)	1	(RTL) NV-HD650MK2A
■	VEP00U71A	S-TAB C.B.A. (PAGE:91)	1	(RTL) NV-HD600MK2A
■	VEP00V88A	S-TAB C.B.A. (PAGE:91)	1	(RTL) NV-HD650MK2A
■	VEX0129	CYLINDER DRIVE C.B.A. (PAGE:91)	1	(RTL)
■	----------	MOTOR C.B.A. (PAGE:91)	1	C.B.A. IN INCLUDED IN LOADING MOTOR (1) UNIT (VEM0427).
⚠	ENG47208N	TUNER	1	NV-HD600MK2A
⚠	ENG47228G	TUNER	1	NV-HD650MK2A
⚠ F1101	XBA2C16TB0	FUSE	1	
⚠ ■	VEP06977P	MAIN C.B.A.		(RTL) NV-HD600MK2A
C301	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C302	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C303	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C304	ECUM1H120JCN	C. CAPACITOR CH 50V 12P	1	
C305	ECUM1H060DCN	C. CAPACITOR CH 50V 6P	1	
C306	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C307	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C308	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C309	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C310-12	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C313	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C314	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C315	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C316	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C317	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C318, 19	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C321	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C322	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C323	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C324	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C325	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C326	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C327	ECUM1E823KBN	C. CAPACITOR CH 25V 0.082U	1	
C328	ECEA1HKN010	E. CAPACITOR 50V 1U	1	
C329	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C330	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C331, 32	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C333	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C334	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
C335	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C336	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C340	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C341	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
C342	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C343	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C344	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C345	ECEA1HKA2R2	E. CAPACITOR 50V 2.2U	1	
C347	ECUM1E154KBM	C. CAPACITOR CH 25V 0.15U	1	
C348	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C349	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C350	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C351	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C352	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C353	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C354	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C355	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C356	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C357	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C358, 59	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C360	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C361	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C362	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C363	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C364	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C365	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C366	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C367-72	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	6	
C373	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C374	ECEA1EKN4R7	E. CAPACITOR 25V 4.7U	1	
C375	ECEA0JKA220	E. CAPACITOR 6.3V 22U	1	
C376	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C378	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C379	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C380	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C381	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C383	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C386	ECUX1H561JCN	C. CAPACITOR CH 50V 560P	1	
C387	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C391	ECEA1HKN010	E. CAPACITOR 50V 1U	1	
C392	ECUM1H681KBN	C. CAPACITOR CH 50V 680P	1	
C394	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C0701, 02	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C0704	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C0706	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C0707, 08	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C0709	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C0710	ECUX1H470JPV	C. CAPACITOR CH 50V 47P	1	
C0711	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0712	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0714	ECQB1H473JF	P. CAPACITOR 50V 0.047U	1	
C0715	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C0716	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0717	ECUM1H300JPV	C. CAPACITOR CH 50V 30P	1	
C0718	ECEA1HKAR47	E. CAPACITOR 50V 0.47U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C0719	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C0720	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0723	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C0726	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0730	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C1001	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1002	ECA1CM470	E. CAPACITOR 16V 47U	1	
C1003	ECA1CM101	E. CAPACITOR 16V 100U	1	
C1004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1005	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C1006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1007	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C1008	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1009, 10	ECEA0JKA101	E. CAPACITOR 6.3V 100U	2	
⚠C1101, 02	ECKMWS331MBH	C. CAPACITOR 330P	2	
⚠C1103	ECKMWS102MEH	C. CAPACITOR 1000P	1	
⚠C1104	ECQU2A333MV	P. CAPACITOR 250V 0.033U	1	
⚠C1105	ECQU2A154MNB	P. CAPACITOR 250V 0.15U	1	
C1106	ECEC2GG680	E. CAPACITOR 400V 68U	1	
C1107	ECKD2H103PU	C. CAPACITOR 500V 0.01U	1	
C1108	ECCZ3A121KGE	C. CAPACITOR 1KV 120	1	
C1109	ECEA1VGE470	E. CAPACITOR 35V 47U	1	
C1110	ECEA0JGE331	E. CAPACITOR 6.3V 330U	1	
C1111	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C1113	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C1131	EEUFA1E681	E. CAPASITOR 25V 680U	1	
C1132	ECEA1EU221	E. CAPACITOR 25V 220U	1	
C1133	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1134	EEUFA1A391B	E. CAPACITOR 10V 390U	1	
C1135	ECEA1AU331	E. CAPACITOR 10V 330U	1	
C1136	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1137	ECEA1JFE470	E. CAPACITOR 63V 47U	1	
C1138	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1139	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1140	ECA1VFQ560	E. CAPACITOR 35V 56U	1	
C1141	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1143	ECA0JFQ221	E. CAPACITOR 6.3V 220U	1	
C1144, 45	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C2013	ECQV1H334JM	P. CAPACITOR 50V 0.33U	1	
C2022	ECEA1EKS330	E. CAPACITOR 25V 33U	1	
C2023	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C2024	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C2025, 26	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
C2029, 30	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	2	
C2031	ECUM1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C2032	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C2033	ECA0JM221	E. CAPACITOR 6.3V 220U	1	
C2034	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C2035	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C2037	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C2038	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C2039	ECEA0JKA220	E. CAPACITOR 6.3V 22U	1	
C2040	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C2047	ECQV1H683JM	P. CAPACITOR 50V 0.068U	1	
C2049-51	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	3	
C2052	ECA0JM221	E. CAPACITOR 6.3V 220U	1	
C2053-55	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	3	
C3001	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3002, 03	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C3004	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C3005	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3007	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C3008	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3009	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3010	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3011	ECUM1E154KBM	C. CAPACITOR CH 25V 0.15U	1	
C3012	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C3015	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3016	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C3017, 18	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C3019	ECUM1H620JCN	C. CAPACITOR CH 50V 62P	1	
C3021	ECA0JM471	E. CAPACITOR 6.3V 470U	1	
C3022	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3023	ECEA1CKA470	E. CAPACITOR 16V 47U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3024	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3025	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C3026	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C3027	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C3028	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3029	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3031	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3032	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C3033	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3045	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	1	
C3046	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3047	ECUM1E104ZFM	C. CAPACITOR CH 25V 0. 1U	1	
C4001	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C4005	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C4008	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C4010	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C4011, 12	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	2	
C4013, 14	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
C4017	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C4034	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C4035, 36	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	2	
C4503	ECUX1H152KBV	C. CAPACITOR CH 50V 1500P	1	
C4504	ECEA1CU470	E. CAPACITOR 16V 47U	1	
C4505	ECA1VM470	E. CAPACITOR 35V 47U	1	
C4506	ECEA1CU100	E. CAPACITOR 16V 10U	1	
C4507	ECQB1H223JF	P. CAPACITOR 50V 0. 022U	1	
C4508	ECEA1EKN4R7	E. CAPACITOR 25V 4. 7U	1	
C4509	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4510	ECQB1H103JF	P. CAPACITOR 50V 0. 01U	1	
C4511	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4512	ECUX1H561JV	C. CAPACITOR CH 50V 560P	1	
C4513	ECUX1H681JV	C. CAPACITOR CH 50V 680P	1	
C4514	ECUX1H561JV	C. CAPACITOR CH 50V 560P	1	
C4515	ECEA1EU4R7	E. CAPACITOR 25V 4. 7U	1	
C4517	ECEA1AU101	E. CAPACITOR 10V 100U	1	
C4518	ECUX1C104ZFV	C. CAPACITOR CH 16V 0. 1U	1	
C4521	ECUM1E473KBN	C. CAPACITOR CH 25V 0. 047U	1	
C4522	ECEA1HU3R3	E. CAPACITOR 50V 3. 3U	1	
C4524	ECEA1AU101	E. CAPACITOR 10V 100U	1	
C4528	ECUX1C104ZFV	C. CAPACITOR CH 16V 0. 1U	1	
C4530	ECEA0JU470	E. CAPACITOR 6. 3V 47U	1	
C4533	ECEA1AU330	E. CAPACITOR 10V 33U	1	
C4537	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1	
C4538	ECEA1HUR47	E. CAPACITOR 50V 0. 47U	1	
C4539	ECUX1C224ZFV	C. CAPACITOR CH 16V 0. 22U	1	
C4541	ECUX1C104ZFV	C. CAPACITOR CH 16V 0. 1U	1	
C4545	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1	
C4551	ECQB1H223JF	P. CAPACITOR 50V 0. 022U	1	
C4556	ECEA1CU100	E. CAPACITOR 16V 10U	1	
C4558	ECEA1EKN4R7	E. CAPACITOR 25V 4. 7U	1	
C4559	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4560	ECQB1H103JF	P. CAPACITOR 50V 0. 01U	1	
C4561	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4562	ECUX1H561JV	C. CAPACITOR CH 50V 560P	1	
C4563	ECUX1H681JV	C. CAPACITOR CH 50V 680P	1	
C4564	ECUX1H561JV	C. CAPACITOR CH 50V 560P	1	
C4565	ECEA1EU4R7	E. CAPACITOR 25V 4. 7U	1	
C4567	ECEA1AU101	E. CAPACITOR 10V 100U	1	
C4568	ECUX1C104ZFV	C. CAPACITOR CH 16V 0. 1U	1	
C4572	ECEA1HU3R3	E. CAPACITOR 50V 3. 3U	1	
C4576	ECUM1E473KBN	C. CAPACITOR CH 25V 0. 047U	1	
C4583	ECEA1AU330	E. CAPACITOR 10V 33U	1	
C4585, 86	ECEA1AU101	E. CAPACITOR 10V 100U	2	
C4591	ECUX1C104ZFV	C. CAPACITOR CH 16V 0. 1U	1	
C4592	ECUX1H152KBV	C. CAPACITOR CH 50V 1500P	1	
C4593	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C4594, 95	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	2	
C4596	ECEA1CU100	E. CAPACITOR 16V 10U	1	
C4597	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C4604	ECUM1H182JN	C. CAPACITOR CH 50V 1800P	1	
C4606	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C4611	ECQB1H562JF	P. CAPACITOR 50V 5600P	1	
C4616	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1	
C4617	ECEA1OM22	E. CAPACITOR 10V 22U	1	
C4618	ECQB1H822JF	P. CAPACITOR 50V 8200P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4621	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C4629	ECQB1H123JF	P. CAPACITOR 50V 0. 012U	1	
C4636	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C4638	ECQB1H272JF	P. CAPACITOR 50V 0. 22U	1	
C4652, 53	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
C6001	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C6003	ECUM1C224ZFN	C. CAPACITOR CH 16V 0. 22U	1	
C6006	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C6007, 08	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	2	
C6010	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C6011	ECUX1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C6013	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6015, 16	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	2	
C6029	ECUM1H223KBN	C. CAPACITOR CH 50V 0. 022U	1	
C6030	ECUM1H181KBN	C. CAPACITOR CH 50V 180P	1	
C7302	ECEA1HKN2R2	E. CAPACITOR 50V 2. 2U	1	
C7304	ECEA1HKN2R2	E. CAPACITOR 50V 2. 2U	1	
C7308	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C7309	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C7310	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7311	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7312	ECQB1H103JZ	P. CAPACITOR 50V 0. 01U	1	
C7313	ECQV1H104JM	P. CAPACITOR 50V 0. 1U	1	
C7314, 15	ECQB1H103JZ	P. CAPACITOR 50V 0. 01U	2	
C7320, 21	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C7323-25	ECUM1H153KBM	C. CAPACITOR CH 50V 0. 015U	3	
C7326	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C7328	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7330	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7332, 33	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	2	
C7337	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C7339	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C7340	ECUM1H390JPN	C. CAPACITOR CH 50V 39P	1	
C7341	ECUX1H070DCV	C. CAPACITOR CH 50V 7P	1	
C7345	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C7346	ECUM1H390JPN	C. CAPACITOR CH 50V 39P	1	
C7347	ECUX1H070DCV	C. CAPACITOR CH 50V 7P	1	
C7349, 50	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	2	
C7352	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C7353	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7601	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7603	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7604	ECUM1C474ZFN	C. CAPACITOR CH 16V 0. 47U	1	
C7605	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7606	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7610	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C7611	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7612	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7613	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7614	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7615	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7616	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7617	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7618	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7620	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C7621, 22	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C7623	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C7632	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7633	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C7635	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7661	ECUM1H104ZFM	C. CAPACITOR CH 50V 0. 1U	1	
C7662	ECUM1H683ZFM	C. CAPACITOR CH 50V 0. 068U	1	
C7663	ECUM1H823ZFM	C. CAPACITOR CH 50V 0. 082U	1	
C7664	ECUX1H273KBM	C. CAPACITOR CH 50V 0. 027U	1	
C7665, 66	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C7668	ECUM1H103ZFM	C. CAPACITOR CH 50V 0. 01U	1	
C7669	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7671	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7677	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7678	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7701	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C7702	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7703	ECUM1H300JCN	C. CAPACITOR CH 50V 30P	1	
C7704	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C7705	ECEA1HKAR22	E. CAPACITOR 50V 0. 22U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7706. 07	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C7708	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C7709	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7710	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C7711	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C7714	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C7716	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7717	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C7719	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C7726	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
D301	1SS283	DIODE	1	
D304	1SS254	DIODE	1	
D305	MA723VT	DIODE	1	
D307-10	1SS254	DIODE	4	
D312	1SS254	DIODE	1	
D314-16	1SS254	DIODE	3	
D1001	MA4120-MVT	DIODE	1	
D1002	1SS254	DIODE	1	
D1004	MA4051-L	DIODE	1	
D1005. 06	1SS254	DIODE	2	
⚠D1102	S1WBA60BS	DIODE	1	
D1103	AP01C	DIODE	1	
D1104	MA178	DIODE	1	
D1105	MA700	DIODE	1	
D1106	MA4200H	DIODE	1	
D1107	1SS254	DIODE	1	
D1121	RN2ZLF-C4	DIODE	1	
D1122	21DQ04	DIODE	1	
D1123	ERA22-02	DIODE	1	
D1124	MA185	DIODE	1	
D1125	11EQS04	DIODE	1	
D1126	MA4047-M	DIODE	1	
D2001	1SS355	DIODE	1	
D2003. 04	1SS254	DIODE	2	
D2007	1SS355	DIODE	1	
D3007	1SS355	DIODE	1	
D3010	1SS355	DIODE	1	
D4003	1SS254	DIODE	1	
D4004	MA700A	DIODE	1	
D4005	1SS254	DIODE	1	
D4501-04	MA141K	DIODE	4	
D6001	LN59L. VT	LED	1	
D6002	1SS254	DIODE	1	
D6003	1SS355	DIODE	1	
D6007	MA4075-L	DIODE	1	
D7304	MA29T-B	DIODE	1	
D7305	1SS254	DIODE	1	
D7307	MA151K	DIODE	1	
D7601	1SS254	DIODE	1	
D7604	1SS355	DIODE	1	
D7703	SVC251SPA	DIODE	1	
D7704	1SS254	DIODE	1	
⚠F1101	XBA2C16TB0	FUSE	1	
IC301	TL8849AP	IC	1	
IC302	AN3553NFBP		1	
IC0701	LA7576	IC	1	
IC1001	HA17431PA	IC	1	
⚠IC1101	STRM6559LF	IC	1	
IC2001	BA6887-V3	IC	1	
IC2004	LM358PS	IC	1	
IC3001	MM1111XFF	IC	1	
IC4501	XLH7773AKS	IC	1	
IC4601	BA7755AF	IC	1	
IC6001	MN67434VRSZ	IC	1	
IC6002. 03	ON1387	IC	2	
IC7301	TDA9845	IC	1	
IC7302	TA8721SN	IC	1	
IC7651	AN5043	IC	1	
IC7653	UPD4066BG	IC	1	
IC7701	UPD6464CS505	IC	1	
JK3001	VJJ0392	JACK 6P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
K4	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K7	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K303	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K307	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K314-16	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	3	
K0702	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K0704. 05	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
K3004	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
K3005	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4001	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4005	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4011	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4021	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4023. 24	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	2	
K6002	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7302	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K7316	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
K7607	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7610	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7622	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7701	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
L301	VLQ0599J470	COIL 47UH	1	
L302	VLQ0599J100	COIL 10UH	1	
L303	VLQ0599J270	COIL 27UH	1	
L304	VLQ0599J100	COIL 10UH	1	
L305	VLQ0599J680	COIL 68UH	1	
L306. 07	VLQ0599J390	COIL 39UH	2	
L308	VLQ0599J150	COIL 15UH	1	
L309	VLQ0599J390	COIL 39UH	1	
L310	VLQ0599J121	COIL 120UH	1	
L311	VLQ0599J101	COIL 100UH	1	
L312	VLQ0599J8R2	COIL 8. 2UH	1	
L313	VLQ0599J680	COIL 68UH	1	
L314	VLQ0599J220	COIL 22UH	1	
L315	VLQ0599J101	COIL 100UH	1	
L316	VLQ0599J470	COIL 47UH	1	
L317	VLQ0599J101	COIL 100UH	1	
L318	VLQ0599J680	COIL 68UH	1	
L319	VLQ0599J270	COIL 27UH	1	
L322	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
L323-33	VLP0145	COIL	11	
L0701	VLQ0163JR22	COIL 0. 22UH	1	
L0705	VLQ0163K3R3	COIL 3. 3UH	1	
L0706	VLQEL05S8R2K	COIL 8. 2UH	1	
⚠L1101. 02	ELF18D290A-P	COIL 29UH	2	
L1103. 04	VLP0083	COIL	2	
L1105	VLP0085	COIL	1	
L1121	VLQ0611K220	COIL 22UH	1	
L1122	ELELN220KA	COIL 22UH	1	
L1123. 24	ELESE101KA	COIL 100UH	2	
L1125	VLP0085	COIL	1	
L1127	VLP0074	COIL	1	
L3001	VLQ0599J3R3	COIL 3. 3UH	1	
L3002	VLQ0599J680	COIL 68UH	1	
L3003	VLQ0599J6R8	COIL 6. 8UH	1	
L3004	VLQ0599J120	COIL 12UH	1	
L3005	VLQ0599J680	COIL 68UH	1	
L3006	VLQ0599J101	COIL 100UH	1	
L3007	VLQ0599J680	COIL 68UH	1	
L3008	VLQ0599J270	COIL 27UH	1	
L3009	VLQ0599J680	COIL 68UH	1	
L3010	ELESN681KA	COIL 680UH	1	
L4501. 02	ELESE101KA	COIL 100UH	2	
L4601	VLQEL07F153J	COIL 15000UH	1	
L7601	VLQ0599J680	COIL 68UH	1	
L7602	VLQ0599J1R0	COIL 1UH	1	
L7603	VLQ0599J680	COIL 68UH	1	
L7605. 06	VLQ0599J680	COIL 68UH	2	
L7609	VLQ0599J680	COIL 68UH	1	
L7610	VLQ0599J1R0	COIL 1UH	1	
L7701. 02	VLQ0599J330	COIL 33UH	2	
L7703	VLQ0599J4R7	COIL 4. 7UH	1	
L7705	VLQ0599J100	COIL 10UH	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L7706	VLQ0599J330	COIL 33UH	1	
⚠P1101	VJS3306	AC INLET	1	
P2001	VJS3316A002	CONNECTOR (FEMALE) 2P	1	
P3002	VJS3537A020G	CONNECTOR (FEMALE) 20P	1	
P6001	VJS3537A032G	CONNECTOR (FEMALE) 32P	1	
P6004	VJS3820	CONNECTOR (FEMALE) 4P	1	
PK0701	VJR0816E010W	CONNECTOR (MALE) 10P	1	
PK4001-03	VJR0757B018T	CONNECTOR (MALE) 18P	3	
PK7301	VJR0777B007W	CONNECTOR (MALE) 7P	1	
PK7302	VJR0777B005W	CONNECTOR (MALE) 5P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP2001	VJP3042G018W	CONNECTOR (MALE) 18P	1	
PP2002	VJP3042G011W	CONNECTOR (MALE) 11P	1	
PP3007	VJP3043G012W	CONNECTOR (MALE) 12P	1	
PP6005	VJP3042G003W	CONNECTOR (MALE) 3P	1	
PS301	VJR0776B009W	CONNECTOR (MALE) 9P	1	
PS302	VJR0776B013W	CONNECTOR (MALE) 13P	1	
PS303	VJR0776B006W	CONNECTOR (MALE) 6P	1	
PS7701	VJS3043F012W	CONNECTOR (FEMALE) 12P	1	
Q301, 02	MSD601	TRANSISTOR	2	
Q303, 04	MSC2295	TRANSISTOR	2	
Q305	MSB709	TRANSISTOR	1	
Q0701	MSD601-S	TRANSISTOR	1	
Q0702	MSB709-R	TRANSISTOR	1	
Q1001	2SD25440PQA	TRANSISTOR	1	
Q1002, 03	2SD1996-S	TRANSISTOR	2	
⚠Q1101	PS2561L2-1WL	TRANSISTOR	1	
Q3001	XN4501	TRANSISTOR	1	
Q3002	MSB710	TRANSISTOR	1	
Q3003	2SB709A	TRANSISTOR	1	
Q3004	MSD601	TRANSISTOR	1	
Q3005	MSC2295	TRANSISTOR	1	
Q3006	MSB709	TRANSISTOR	1	
Q3007	MSC2295	TRANSISTOR	1	
Q3010	2SB709A	TRANSISTOR	1	
Q4501	2SD1991A-R	TRANSISTOR	1	
Q4551	2SB1320A-R	TRANSISTOR	1	
Q4552	2SD1819A	TRANSISTOR	1	
Q4601	2SD1819A	TRANSISTOR	1	
Q6001	MSB709	TRANSISTOR	1	
Q6002	PN205L-NC. VT	PHOTO TRANSISTOR	1	
Q7301	MSD601-S	TRANSISTOR	1	
Q7602	MSD601-S	TRANSISTOR	1	
Q7603	2SB709A-R	TRANSISTOR	1	
Q7701	MSB709	TRANSISTOR	1	
Q7705	MSC2295	TRANSISTOR	1	
QR302	MUN2212	TRANSISTOR-RESISTOR	1	
QR303	MUN2213	TRANSISTOR-RESISTOR	1	
QR306	MUN2213	TRANSISTOR-RESISTOR	1	
QR308	IMH5	TRANSISTOR-RESISTOR	1	
QR310	MUN2213	TRANSISTOR-RESISTOR	1	
QR311	MUN2111	TRANSISTOR-RESISTOR	1	
QR312	MUN2113	TRANSISTOR-RESISTOR	1	
QR314	MUN2213	TRANSISTOR-RESISTOR	1	
QR316	MUN2213	TRANSISTOR-RESISTOR	1	
QR2001	MUN2113	TRANSISTOR-RESISTOR	1	
QR2002	UN2114	TRANSISTOR-RESISTOR	1	
QR2003	FMG8-T148	TRANSISTOR-RESISTOR	1	
QR2004	MUN2112	TRANSISTOR-RESISTOR	1	
QR2006, 07	IMD8	TRANSISTOR-RESISTOR	2	
QR2008	XN1213	TRANSISTOR-RESISTOR	1	
QR2014	MUN2213	TRANSISTOR-RESISTOR	1	
QR3001	MUN2111	TRANSISTOR-RESISTOR	1	
QR3002, 03	DTC363EK	TRANSISTOR-RESISTOR	2	
QR3005	MUN2213	TRANSISTOR-RESISTOR	1	
QR3006	MUN2111	TRANSISTOR-RESISTOR	1	
QR3007	MUN2211	TRANSISTOR-RESISTOR	1	
QR3008	XN4213	TRANSISTOR-RESISTOR	1	
QR4001	MUN2212	TRANSISTOR-RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
QR4002, 03	MUN2213	TRANSISTOR-RESISTOR	2	
QR4508, 09	UN5113	TRANSISTOR-RESISTOR	2	
QR4510	UN5212	TRANSISTOR-RESISTOR	1	
QR4602	UN5111	TRANSISTOR-RESISTOR	1	
QR4603	UN5213	TRANSISTOR-RESISTOR	1	
QR6001	XN1211	TRANSISTOR-RESISTOR	1	
QR6003	MUN2211	TRANSISTOR-RESISTOR	1	
QR7304	MUN2213	TRANSISTOR-RESISTOR	1	
QR7601	MUN2213	TRANSISTOR-RESISTOR	1	
QR7606	MUN2211	TRANSISTOR-RESISTOR	1	
R301, 02	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R303	ERJ6GMYG272	M. RESISTOR CH 1/10W 2. 7K	1	
R304	ERJ6GMYG182	M. RESISTOR CH 1/10W 1. 8K	1	
R305	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R306	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R307	ERJ6GMYK225	M. RESISTOR CH 1/10W 2. 2M	1	
R308	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R310	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R311	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R312	ERJ6GMYG122	M. RESISTOR CH 1/10W 1. 2K	1	
R313, 14	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R315	ERJ6GMYJ684	M. RESISTOR CH 1/10W 680K	1	
R317	ERJ6GMYG221	M. RESISTOR CH 1/10W 220	1	
R318	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R319	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R320	ERJ6GMYG682	M. RESISTOR CH 1/10W 6. 8K	1	
R321	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R322	ERJ6GMYG472	M. RESISTOR CH 1/10W 4. 7K	1	
R324	ERJ6GMYG472	M. RESISTOR CH 1/10W 4. 7K	1	
R325	ERJ6GMYG562	M. RESISTOR CH 1/10W 5. 6K	1	
R326	ERJ6GMYG122	M. RESISTOR CH 1/10W 1. 2K	1	
R327	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R328	ERJ6GMYG152	M. RESISTOR CH 1/10W 1. 5K	1	
R329	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R330	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R331	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R332	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R334	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R336	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R337	ERJ6GMYG241	M. RESISTOR CH 1/10W 240	1	
R338	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R339	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R340	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R341	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R342, 43	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R344	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R345	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R346	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R347, 48	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R349	ERJ6GMYG272	M. RESISTOR CH 1/10W 2. 7K	1	
R350	ERJ6GMYK225	M. RESISTOR CH 1/10W 2. 2M	1	
R351	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R353	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R358	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R359	ERJ6GMYJ124	M. RESISTOR CH 1/10W 120K	1	
R361	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R362	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R363	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R364	ERJ6GMYG682	M. RESISTOR CH 1/10W 6. 8K	1	
R367	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R369	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R371	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R372	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R373	ERJ6GMYG334	M. RESISTOR CH 1/10W 330K	1	
R0702	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2. 7K	1	
R0704	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2. 2K	1	
R0705	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5. 6K	1	
R0706, 07	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2. 7K	2	
R0708	ERJ3GEYG152	M. RESISTOR CH 1/16W 1. 5K	1	
R0709	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R0710	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	1	
R0713	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R0714	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R0715	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R0716	VRE0040E151	M.RESISTOR CH 1/10W 150	1	
R0717	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0718	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0719	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R0720	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0722	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0728	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0729	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0732	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0783	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R1001	ERDS1TJ472	C.RESISTOR 1/2W 4.7K	1	
R1002	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R1003	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R1004	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	1	
R1005	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R1006	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
⚠R1101	ERC12AGM334	S.RESISTOR 1/2W 330K	1	
R1102	ERG1SJ683	M.RESISTOR 1W 68K	1	
R1103, 04	ERDS2TJ224	C.RESISTOR 1/4W 220K	2	
R1105	ERJ8GEYK395	M.RESISTOR CH 1/8W 3.9M	1	
R1106	ERJ8GEYK475	M.RESISTOR CH 1/8W 4.7M	1	
R1107	ERJ6GMYG224	M.RESISTOR CH 1/10W 220K	1	
R1108	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R1109	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R1110	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R1111, 12	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	2	
R1113	ERX1SJR82	M.RESISTOR 1W 0.82	1	
R1114	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R1117	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
R1121	ERJ6GMYJ220	M.RESISTOR CH 1/10W 22	1	
R1122	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2001	ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R2002	ERJ6GMYG913	M.RESISTOR CH 1/10W 91K	1	
R2003	ERDS2FJ7R5	C.RESISTOR 1/4W 7.5	1	
R2004	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R2005, 06	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R2007	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R2011	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R2013-15	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	3	
R2017, 18	ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	2	
R2019	ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R2020	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2021	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
R2023	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R2025	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R2027, 28	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	
R2029, 30	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R2031	ERJ6GMYJ244	M.RESISTOR CH 1/10W 240K	1	
R2035	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R2037	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2038	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2039	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R2040	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R2041	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2042, 43	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2044	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R2045	ERJ6GMYJ753	M.RESISTOR CH 1/10W 75K	1	
R2046	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R2047	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
R2048	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R2049	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R2050	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2051	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2052	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2053, 54	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	2	
R2059	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R2060, 61	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	2	
R2062	ERDS2FJ7R5	C.RESISTOR 1/4W 7.5	1	
R2063, 64	ERDS2FJ6R8	C.RESISTOR 1/4W 6.8	2	
R3001, 02	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R3003	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3004	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3005	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R3006	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3007	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3008, 09	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	2	
R3010	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R3012	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R3015	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3016	ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R3017	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3018	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3019, 20	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	2	
R3021	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3022	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3023, 24	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	2	
R3025	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3026	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3028	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R3030	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R3033	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3034	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3035	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3036	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R3037	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3038	ERJ8GEYJ102	M.RESISTOR CH 1/8W 1K	1	
R3039	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3040, 41	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
R3042	ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R4001	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4002	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4014	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R4018	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R4021	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1	
R4022	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R4023	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R4024	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R4025	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R4043	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4046	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R4055	ERG2SJ821	M.RESISTOR 2W 820	1	
R4056	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R4058	ERG2SJ101	M.RESISTOR 2W 100	1	
R4501, 02	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4503	ERJ3GEYG223	M.RESISTOR CH 1/16W 22K	1	
R4506, 07	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4508	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4509	ERJ3RBD622	M.RESISTOR CH 1/16W 6.2K	1	
R4511	ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4512	ERJ3RBD163	M.RESISTOR CH 1/16W 16K	1	
R4513	ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R4514	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4518, 19	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4522	ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R4527	ERJ3RBD333	M.RESISTOR CH 1/16W 33K	1	
R4528	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R4529	ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R4535	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4539	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4541	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4542	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4543	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R4551, 52	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4553, 54	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4558	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4561	ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4562	ERJ6RHD1242	M.RESISTOR CH 1/10W 12.4K	1	
R4563	ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	1	
R4568, 69	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4572	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4573	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R4577	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4578	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
R4581	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4583	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R4584	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R4585, 86	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4587, 88	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4591	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4592	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R4593	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R4594	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4596	ERJ3GEYG473	M. RESISTOR CH 1/16W 47K	1	
R4597	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4598, 99	ERJ3GEYG104	M. RESISTOR CH 1/16W 100K	2	
R4603	ERJ3GEYG163	M. RESISTOR CH 1/16W 16K	1	
R4606	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1	
R4610	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4611	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R4612	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R4613	ERJ3GEYG394	M. RESISTOR CH 1/16W 390K	1	
R4615	ERJ3RBD133	M. RESISTOR CH 1/16W 13K	1	
R4616	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R4649	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R4651	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R4653	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R4654	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R4655	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R4656	ERJ3GEYG243	M. RESISTOR CH 1/16W 24K	1	
R4657	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R4666	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R4670	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1	
R4671	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R6001	ERJ6GMYJ201	M. RESISTOR CH 1/10W 200	1	
R6002, 03	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	2	
R6004	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6005-07	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	3	
R6008	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R6009-11	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	3	
R6013	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R6014, 15	ERJ6GMYG223	M. RESISTOR CH 1/10W 22K	2	
R6016	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6017	ERJ6GMYG271	M. RESISTOR CH 1/10W 270	1	
R6018	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R6020	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R6022	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R6023	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R6024-29	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	6	
R6030	ERJ6GMYG224	M. RESISTOR CH 1/10W 220K	1	
R6031	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6032, 33	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	2	
R6034, 35	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R6037	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R6039, 40	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R7302	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1	
R7303	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R7304	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R7305	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R7307	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R7311	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R7313	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R7320	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7323	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1	
R7324, 25	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	2	
R7326	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1	
R7327	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7328	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R7329	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R7330	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R7331	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1	
R7336	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R7337	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R7345	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
R7352, 53	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R7354, 55	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	2	
R7358, 59	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R7362, 63	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R7601	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R7603	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7604	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	1	
R7605, 06	ERJ6GMYG184	M. RESISTOR CH 1/10W 180K	2	
R7607	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R7608	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7609	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7610	ERDS2TJ332	C. RESISTOR 1/4W 3.3K	1	
R7617	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7657	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	1	
R7671, 72	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	2	
R7673	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R7674	ERJ6GMYJ124	M. RESISTOR CH 1/10W 120K	1	
R7675	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7676	ERG1SJ152	M. RESISTOR 1W 1.5K	1	
R7677	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R7678	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R7679	ERDS2TJ100	C. RESISTOR 1/4W 10	1	
R7680	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7681, 82	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	2	
R7683	ERJ6GMYG563	M. RESISTOR CH 1/10W 56K	1	
R7684	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R7690	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7702	ERJ6GEYG512	M. RESISTOR CH 1/10W 5.1K	1	
R7703	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R7704	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7706	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7713, 14	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R7724	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
SW3001	VSS0398	SWITCH	1	
T0703	EQV5EC071A	TRANSFORMER	1	
T0704	EQV5EC073A	TRANSFORMER	1	
⚠ T1101	ETE28K94AY	TRANSFORMER	1	
T7301	EQR7QG028P	TRANSFORMER	1	
T7304	EIS5EC017A	TRANSFORMER	1	
T7305	EQS5EC033A	TRANSFORMER	1	
VR301	EVMEASA00B14	V. RESISTOR 10K	1	
VR302	EVMEASA00B53	V. RESISTOR 5K	1	
VR303	EVMEASA00B24	V. RESISTOR 20K	1	
VR0701	EVNCBAA00B24	V. RESISTOR 20K	1	
VR2001	EVNCYAA03B54	V. RESISTOR 50K	1	
VR3001, 02	EVNCYAA03B23	V. RESISTOR 2K	2	
VR3012, 13	EVNCYAA03B52	V. RESISTOR 500	2	
VR4501	EVMECSA00B53	V. RESISTOR 5K	1	
VR4502	EVMEASA00BY4	V. RESISTOR 33K	1	
VR4507	EVMEASA00BY4	V. RESISTOR 33K	1	
VR4509	EVMECSA00BY3	V. RESISTOR 3.3K	1	
VR4550	EVMECSA00B14	V. RESISTOR 10K	1	
VR4551, 52	EVMECSA00B55	V. RESISTOR 500K	2	
VR7301, 02	EVNCBAA00B53	V. RESISTOR 5K	2	
X301	VSX0162	CRYSTAL OSCILLATOR	1	
X302	VSX0160	CRYSTAL OSCILLATOR	1	
X0703	EFCWS2F11	FILTER	1	
X0704	VLF1077	FILTER	1	
X0705	VLF1136	FILTER	1	
X6001	VSX0609	CRYSTAL OSCILLATOR	1	
X7301	EFCS5R5MS5	CRYSTAL OSCILLATOR	1	
X7304	EFCS5R74MS5B	FILTER	1	
X7305	VSX0648	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
⚠	ENG47208N	TUNER	1	
⚠	EYF52BC	FUSE HOLDER	2	
	VMD1926	LED HOLDER	1	
	VMD1927	PHOTO TRANSISTOR HOLDER	1	
	VMD2029	REEL GUIDE	1	
	VSC4141	SW SHIELD COVER	1	
	VWJ0875	FLAT CARD CABLE	1	(P3002-P501)
	VWJ32C9160BB	FLAT CARD CABLE	1	(P6001-P7501)
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODULATOR C. B. A.
⚠ ■	VEP06980AA	MAIN C. B. A.		(RTL) NV-HD650MK2A
C301	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C302	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C303	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C304	ECUM1H120JCN	C. CAPACITOR CH 50V 12P	1	
C305	ECUM1H060DCN	C. CAPACITOR CH 50V 6P	1	
C306	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C307	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C308	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C309	ECEA1HKA0R1	E. CAPACITOR 50V 0. 1U	1	
C310-12	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	3	
C313	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C314	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	1	
C315	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C316	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C317	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C318, 19	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C321	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C322	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C323	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C324	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C325	ECUM1H223KBN	C. CAPACITOR CH 50V 0. 022U	1	
C326	ECEA1HKA3R3	E. CAPACITOR 50V 3. 3U	1	
C327	ECUM1E823KBN	C. CAPACITOR CH 25V 0. 082U	1	
C328	ECEA1HKN010	E. CAPACITOR 50V 1U	1	
C329	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C331, 32	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C333	ECEA1HKN010	E. CAPACITOR 50V 1U	1	
C334	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
C335	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C336	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C340	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C341	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
C342	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C343	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	1	
C344	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	1	
C345	ECEA1HKA2R2	E. CAPACITOR 50V 2. 2U	1	
C347	ECUM1E154KBM	C. CAPACITOR CH 25V 0. 15U	1	
C348	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C349	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C350	ECUM1H333KBN	C. CAPACITOR CH 50V 0. 033U	1	
C351	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C352	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C353	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C354	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C355	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C356	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C357	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C358, 59	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	2	
C360	ECUM1H223KBN	C. CAPACITOR CH 50V 0. 022U	1	
C361	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C362	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C363	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C364	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C365	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C366	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C367-72	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	6	
C373	ECEA1HKA3R3	E. CAPACITOR 50V 3. 3U	1	
C374	ECEA1EKN4R7	E. CAPACITOR 25V 4. 7U	1	
C375	ECEA0JKA220	E. CAPACITOR 6. 3V 22U	1	
C376	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C378	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C379	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C380	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C381	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C383	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C386	ECUX1H561JCN	C. CAPACITOR CH 50V 560P	1	
C387	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C388	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C391	ECEA1HKN010	E. CAPACITOR 50V 1U	1	
C392	ECUM1H681KBN	C. CAPACITOR CH 50V 680P	1	
C393	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C394	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C395	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C396	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
C0701, 02	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	2	
C0704	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C0706	ECEA1HKA0R1	E. CAPACITOR 50V 0. 1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C0707, 08	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	2	
C0709	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C0710	ECUX1H470JPV	C. CAPACITOR CH 50V 47P	1	
C0711	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0712	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0714	ECQB1H473JF	P. CAPACITOR 50V 0. 047U	1	
C0715	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C0716	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0717	ECUX1H270JPV	C. CAPACITOR CH 50V 27P	1	
C0718	ECEA1HKAR47	E. CAPACITOR 50V 0. 47U	1	
C0719	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C0720	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0723	ECEA1HKA0R1	E. CAPACITOR 50V 0. 1U	1	
C0726	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0730	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0732	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C1004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1005	ECEA0JKA220	E. CAPACITOR 6. 3V 22U	1	
C1006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1007	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C1008	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1009	ECEA0JKA220	E. CAPACITOR 6. 3V 22U	1	
C1010	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C1011	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1012	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C1013	ECEA0JKA220	E. CAPACITOR 6. 3V 22U	1	
⚠ C1101	ECKMWS471MBH	C. CAPACITOR 470P	1	
⚠ C1104	ECKMWS471MBH	C. CAPACITOR 470P	1	
⚠ C1107	ECKMWS102MEH	C. CAPACITOR 1000P	1	
⚠ C1110	ECQU2A683MN	P. CAPACITOR 250V 0. 068U	1	
⚠ C1111	ECQU2A154MV	P. CAPACITOR 100V 0. 15U	1	
C1112	ECEC2GG680	E. CAPACITOR 400V 68U	1	
C1113	ECKD2H103PU	C. CAPACITOR 500V 0. 01U	1	
C1114	ECCD3A470KGE	C. CAPACITOR 1KV 47P	1	
C1115	ECA1VXLV470	E. CAPACITOR 35V 47U	1	
C1116	ECA1CXLV470	E. CAPACITOR 16V 47U	1	
C1117	ECQV1H104JM	P. CAPACITOR 50V 0. 1U	1	
C1118	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C1120	ECQB1H103JF	P. CAPACITOR 50V 0. 01U	1	
C1121	ECUM1H391KBN	C. CAPACITOR CH 50V 390P	1	
C1131	EEUFA1E681	E. CAPASITOR 25V 680U	1	
C1132	ECEA1EU221	E. CAPACITOR 25V 220U	1	
C1133	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1134	EEUFA1A122	E. CAPASITOR 10V 1200U	1	
C1135	ECEA1AU331	E. CAPACITOR 10V 330U	1	
C1136	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1137	ECA1HFQ560	E. CAPACITOR 50V 56U	1	
C1138	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1140	ECA1VFQ560	E. CAPACITOR 35V 56U	1	
C1141	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1142	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1143	ECA0JFQ221	E. CAPACITOR 6. 3V 220U	1	
C1144, 45	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C1147	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C1148	ECQV1H104JM	P. CAPACITOR 50V 0. 1U	1	
C1149	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1150	ECA1CM101	E. CAPACITOR 16V 100U	1	
C1151	ECEA1EGE470	E. CAPACITOR 25V 47U	1	
C1153	ECQB1H103JF	P. CAPACITOR 50V 0. 01U	1	
C1155	ECKF1H103ZF	C. CAPACITOR 50V 0. 01U	1	
C2004	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C2005	ECQV1H683JM	P. CAPACITOR 50V 0. 068U	1	
C2006	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C2007	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C2008	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C2009	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C2010, 11	ECEA1EKN3R3	E. CAPACITOR 25V 3. 3U	2	
C2012	ECEA1EKA4R7	E. CAPACITOR 25V 4. 7U	1	
C2013	ECEA1AKS221	E. CAPACITOR 10V 220U	1	
C2014	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C2015	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C2016	ECUM1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C2019	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C2021	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C2022	ECUM1H223KBN	C. CAPACITOR CH 50V 0. 022U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C2024,25	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2030	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C2032-34	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	3	
C3001	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3002,03	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3004	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3006	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3007	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3008	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3009	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3010	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3011	ECQV1H154JM	P.CAPACITOR 50V 0.15U	1	
C3012	ECEA0JKA330	E.CAPACOTOR 6.3V 33U	1	
C3013,14	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	2	
C3017,18	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3019	ECUM1H620JCN	C.CAPACITOR CH 50V 62P	1	
C3027	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3028	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3029	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3031	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3032	ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3033	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3040	ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C3041	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3042,43	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3045	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3046,47	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	2	
C3051	ECUM1H152KBN	C.CAPACITOR CH 50V 1500P	1	
C3052,53	ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C3054	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3055	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3057	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3062	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4001	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4002,03	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4005	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4010	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4017	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4034	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4046	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4064	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4503	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4504	ECEA1CU470	E.CAPACITOR 16V 47U	1	
C4505	ECA1VM470	E.CAPACITOR 35V 47U	1	
C4506	ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4507	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4508	ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C4509	ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4510	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4511	ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C4512	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4513	ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4514	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4515	ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4517	ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4518	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4521	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4522	ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4524	ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4528	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4530	ECEA0JU470	E.CAPACITOR 6.3V 47U	1	
C4533	ECEA1AU330	E.CAPACITOR 10V 33U	1	
C4537	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4538	ECEA1HUR47	E.CAPACITOR 50V 0.47U	1	
C4539	ECUX1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
C4541	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4545	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4551	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4556	ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4558	ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C4559	ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4560	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4561	ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C4562	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4563	ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4564	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4565	ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4567	ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4568	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4572	ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4576	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4583	ECEA1AU330	E.CAPACITOR 10V 33U	1	
C4585,86	ECEA1AU101	E.CAPACITOR 10V 100U	2	
C4591	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4592	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4593	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4594,95	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C4596	ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4597	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4604	ECUM1H182JN	C.CAPACITOR CH 50V 1800P	1	
C4606	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4611	ECQB1H562JF	P.CAPACITOR 50V 5600P	1	
C4616	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4617	ECEA1OM22	E.CAPACITOR 10V 22U	1	
C4618	ECQB1H822JF	P.CAPACITOR 50V 8200P	1	
C4621	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4629	ECQB1H123JF	P.CAPACITOR 50V 0.012U	1	
C4636	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4638	ECQB1H272JF	P.CAPACITOR 50V 0.22U	1	
C4652,53	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C5005	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C5006	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C5007-09	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C5012,13	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C5014	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C5015,16	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6001	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6003	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6004	ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C6005	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6006	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6007	ECQV1H334JM	P.CAPACITOR 50V 0.33U	1	
C6009,10	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	2	
C6013	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6016-19	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	4	
C6020	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6021	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6023,24	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6027,28	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7302	ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C7304	ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C7308	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C7309	ECUM1H152KBN	C.CAPACITOR CH 50V 1500P	1	
C7310	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7311	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C7312	ECQB1H103JZ	P.CAPACITOR 50V 0.01U	1	
C7313	ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C7314,15	ECQB1H103JZ	P.CAPACITOR 50V 0.01U	2	
C7320,21	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C7323-25	ECUM1H153KBM	C.CAPACITOR CH 50V 0.015U	3	
C7326	ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7328	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7330	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7332,33	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C7337	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7339	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7340	ECUM1H390JPN	C.CAPACITOR CH 50V 39P	1	
C7341	ECUX1H070DCV	C.CAPACITOR CH 50V 7P	1	
C7345	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7346	ECUM1H390JPN	C.CAPACITOR CH 50V 39P	1	
C7347	ECUX1H070DCV	C.CAPACITOR CH 50V 7P	1	
C7349,50	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C7352	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7353	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7601	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7602	ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C7603	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C7604	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7605	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7606	ECEA1CKA101	E.CAPACITOR 16V 100U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7607	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7608	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
C7609	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7610,11	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7612	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7613	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C7614	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7615	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
D301	1SS283	DIODE	1	
D304	1SS254	DIODE	1	
D305	MA723VT	DIODE	1	
D307	1SS254	DIODE	1	
D309-16	1SS254	DIODE	8	
D1001	MA4051-L	DIODE	1	
D1004	MA4051-L	DIODE	1	
D1005	1SS355	DIODE	1	
D1007,08	1SS355	DIODE	2	
D1102	ERA15-08	DIODE	1	
D1103	AP01C	DIODE	1	
D1104	MA178	DIODE	1	
D1105-07	ERA15-08	DIODE	3	
D1121	RL2ZP	DIODE	1	
D1122	21DQ04	DIODE	1	
D1123	ERA22-02	DIODE	1	
D1124	MA185	DIODE	1	
D1125	11EQS04	DIODE	1	
D1126	MA4043-L	DIODE	1	
D1127	1SS355	DIODE	1	
D2003	MA153	DIODE	1	
D2004	1SS355	DIODE	1	
D2005	MA151K	DIODE	1	
D2007	1SS355	DIODE	1	
D3001	1SS355	DIODE	1	
D3007	1SS254	DIODE	1	
D3011,12	1SS355	DIODE	2	
D3014-17	1SS355	DIODE	4	
D4003	1SS254	DIODE	1	
D4004	MA700A	DIODE	1	
D4005	1SS254	DIODE	1	
D4011	1SS254	DIODE	1	
D4013	1SS254	DIODE	1	
D4501-04	MA141K	DIODE	4	
D4602	MA141K	DIODE	1	
D6001	LN59L.VT	LED	1	
D6002,03	1SS254	DIODE	2	
D6004	1SS355	DIODE	1	
D6005	1SS254	DIODE	1	
D6007	MA4075-L	DIODE	1	
D6009	MA151K	DIODE	1	
D6010,11	1SS254	DIODE	2	
D7304	MA29T-B	DIODE	1	
D7305	1SS254	DIODE	1	
D7307	MA151K	DIODE	1	
D7601	MA4300-M	DIODE	1	
⚠F1101	XBA2C16TB0	FUSE	1	
IC301	TL8849AP	IC	1	
IC302	AN3553NFBP	IC	1	
IC0701	LA7576	IC	1	
IC1001	HA17431PA	IC	1	
IC1101	TDA4605-3	IC	1	
IC1102	SI3120C	IC	1	
IC2001	BA6887-V3	IC	1	
IC4501	XLH7773AKS	IC	1	
IC4601	BA7755AF	IC	1	
IC6001	MN6755486H4L	IC	1	
IC6002,03	ON1387	IC	2	
IC7301	TDA9845	IC	1	
IC7302	TA8721SN	IC	1	
K4	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K303	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K308	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
K316	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K0702	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K0704,05	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
K1003,04	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K1114	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K1118	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K3008	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K3010	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K3014	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K3016,17	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K3030	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4001,02	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K4010	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4015	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4017,18	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K4036	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K6016,17	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K7302	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K7316	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K7602	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7604	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7623,24	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
L301	VLQ0599J470	COIL 47UH	1	
L302	VLQ0599J100	COIL 10UH	1	
L303	VLQ0599J270	COIL 27UH	1	
L304	VLQ0599J100	COIL 10UH	1	
L305	VLQ0599J680	COIL 68UH	1	
L306,07	VLQ0599J390	COIL 39UH	2	
L308	VLQ0599J150	COIL 15UH	1	
L310	VLQ0599J121	COIL 120UH	1	
L311	VLQ0599J101	COIL 100UH	1	
L312	VLQ0599J8R2	COIL 8.2UH	1	
L313	VLQ0599J680	COIL 68UH	1	
L314	VLQ0599J220	COIL 22UH	1	
L315	VLQ0599J101	COIL 100UH	1	
L316	VLQ0599J470	COIL 47UH	1	
L317	VLQ0599J101	COIL 100UH	1	
L318	VLQ0599J680	COIL 68UH	1	
L319	VLQ0599J270	COIL 27UH	1	
L322	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L323-33	VLP0145	COIL	11	
L334	VLQ0599J390	COIL 39UH	1	
L0701	VLQ0163JR39	COIL 0.39UH	1	
L0705	VLQ0163J5R6	COIL 5.6UH	1	
L0706	VLQEL05S120K	COIL 12UH	1	
⚠L1107	ELF18D290A-P	COIL 29UH	1	
⚠L1108	ELF18D221F	COIL 220UH	1	
L1109	VLP0074	COIL	1	
L1110	VLP0085	COIL	1	
L1121	VLQ0611K220	COIL 22UH	1	
L1122	ELELN220KA	COIL 22UH	1	
L1123,24	VLQEL05S101K	COIL 100UH	2	
L3001	VLQ0599J3R3	COIL 3.3UH	1	
L3002	VLQ0599J680	COIL 68UH	1	
L3003	VLQ0599J6R8	COIL 6.8UH	1	
L3004	VLQ0599J120	COIL 12UH	1	
L3006	VLQ0599J101	COIL 100UH	1	
L3008	VLQ0599J270	COIL 27UH	1	
L3009	VLQ0599J680	COIL 68UH	1	
L3010	ELESN681KA	COIL 680UH	1	
L3011	VLQ0599J680	COIL 68UH	1	
L3012,13	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
L4501,02	ELESE101KA	COIL 100UH	2	
L4601	VLQEL07F153J	COIL 15000UH	1	
L5001	VLQ0599J680	COIL 68UH	1	
L5002,03	VLQ0599J270	COIL 27UH	2	
L5004	VLQ0599J150	COIL 15UH	1	
L6001,02	VLQ0599J680	COIL 68UH	2	
L6003	VLQEL05S101K	COIL 100UH	1	
L6004	VLP0083	COIL	1	
L7601,02	VLQ0599J1R0	COIL 1UH	2	
L7603-05	VLQ0599J680	COIL 68UH	3	
L7606	VLQ0599J2R2	COIL 2.2UH	1	
L7607,08	VLQ0599J680	COIL 68UH	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
⚠P1101	VJS3306	AC INLET	1	
P2001	VJS3316A002	CONNECTOR (FEMALE) 2P	1	
P3002	VJS3537A020G	CONNECTOR (FEMALE) 20P	1	
P4001	VJS3537A012G	CONNECTOR (FEMALE) 12P	1	
P5001	VJR0777B005W	CONNECTOR (MALE) 5P	1	
P6001	VJS3537A032G	CONNECTOR (FEMALE) 32P	1	
P6004	VJS3820	CONNECTOR (FEMALE) 4P	1	
PK0701	VJR0816E010W	CONNECTOR (MALE) 10P	1	
PK4001-03	VJR0757B018T	CONNECTOR (MALE) 18P	3	
PK7301	VJR0777B007W	CONNECTOR (MALE) 7P	1	
PK7302	VJR0777B005W	CONNECTOR (MALE) 5P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP2001	VJP3042G018W	CONNECTOR (MALE) 18P	1	
PP2002	VJP3042G011W	CONNECTOR (MALE) 11P	1	
PP3901	VJP3042G020W	CONNECTOR (MAIL) 20P	1	
PP3902	VJP3042G018W	CONNECTOR (MALE) 18P	1	
PP6005	VJP3043G003W	CONNECTOR (MALE) 3P	1	
⚠PR1101	VSF0015A10	IC PROTECTOR	1	
PS301	VJR0776B009W	CONNECTOR (MALE) 9P	1	
PS302	VJR0776B015W	CONNECTOR (MALE) 15P	1	
PS303	VJR0776B008W	CONNECTOR (MALE) 8P	1	
PS304	VJR0776B003W	CONNECTOR (MALE) 3P	1	
Q301,02	MSD601	TRANSISTOR	2	
Q303,04	MSC2295	TRANSISTOR	2	
Q305	MSB709	TRANSISTOR	1	
Q0701	MSD601-S	TRANSISTOR	1	
Q0702	MSB709-R	TRANSISTOR	1	
Q1002,03	2SD1996-S	TRANSISTOR	2	
Q1004	2SD1996	TRANSISTOR	1	
Q1006,07	MSD602	TRANSISTOR	2	
Q1101	STP3N60FI-M	TRANSISTOR	1	
Q1102	2SD601A	TRANSISTOR	1	
⚠Q1111	MOC8104FR2	PHOTO COUPLER	1	
Q3001	XN4501	TRANSISTOR	1	
Q3002	MSB709	TRANSISTOR	1	
Q3004	MSD601	TRANSISTOR	1	
Q3005	MSC2295	TRANSISTOR	1	
Q3006	MSB709	TRANSISTOR	1	
Q3007	MSC2295	TRANSISTOR	1	
Q3008	2SD1996	TRANSISTOR	1	
Q3009	2SB1322	TRANSISTOR	1	
Q3010	MSB709-R	TRANSISTOR	1	
Q3011	2SD601A	TRANSISTOR	1	
Q3012	2SB1322	TRANSISTOR	1	
Q3013	MSB709	TRANSISTOR	1	
Q3014	MSD601	TRANSISTOR	1	
Q3016,17	MSC2295	TRANSISTOR	2	
Q3018-20	MSD601	TRANSISTOR	3	
Q3021	MSB709-R	TRANSISTOR	1	
Q3023	MSC2295	TRANSISTOR	1	
Q4003,04	MSD601	TRANSISTOR	2	
Q4005	MSD1328	TRANSISTOR	1	
Q4501	2SD1991A-R	TRANSISTOR	1	
Q4551	2SB1320A-R	TRANSISTOR	1	
Q4552	2SD1819A	TRANSISTOR	1	
Q4601	2SD1819A	TRANSISTOR	1	
Q5001	MSB709	TRANSISTOR	1	
Q5002	MSD601	TRANSISTOR	1	
Q5003	2SA1022	TRANSISTOR	1	
Q5005	XN1501	TRANSISTOR-RESISTOR	1	
Q5006	MSB709	TRANSISTOR	1	
Q5007	MSC2295	TRANSISTOR	1	
Q5008	MSB709	TRANSISTOR	1	
Q5009-13	MSC2295	TRANSISTOR	5	
Q6001	MSB709	TRANSISTOR	1	
Q6002	PN205L-NC.VT	PHOTO TRANSISTOR	1	
Q7301	MSD601-S	TRANSISTOR	1	
QR302	MUN2212	TRANSISTOR-RESISTOR	1	
QR303	MUN2213	TRANSISTOR-RESISTOR	1	
QR305	MUN2212	TRANSISTOR-RESISTOR	1	
QR306	MUN2213	TRANSISTOR-RESISTOR	1	
QR308	1MH5	TRANSISTOR-RESISTOR	1	
QR310	MUN2213	TRANSISTOR-RESISTOR	1	
QR311	MUN2111	TRANSISTOR-RESISTOR	1	
QR312	MUN2113	TRANSISTOR-RESISTOR	1	
QR314	MUN2213	TRANSISTOR-RESISTOR	1	
QR316	MUN2213	TRANSISTOR-RESISTOR	1	
QR320	XN1212	TRANSISTOR-RESISTOR	1	
QR322	MUN2213	TRANSISTOR-RESISTOR	1	
QR1101	UN2114	TRANSISTOR-RESISTOR	1	
QR3001	MUN2111	TRANSISTOR-RESISTOR	1	
QR3002,03	DTC363EK	TRANSISTOR-RESISTOR	2	
QR3005	MUN2213	TRANSISTOR-RESISTOR	1	
QR3006,07	MUN2111	TRANSISTOR-RESISTOR	2	
QR3008-18	MUN2212	TRANSISTOR-RESISTOR	11	
QR3019	XN4213	TRANSISTOR-RESISTOR	1	
QR3020	MUN2212	TRANSISTOR-RESISTOR	1	
QR3021	MUN2211	TRANSISTOR-RESISTOR	1	
QR3023	MUN2213	TRANSISTOR-RESISTOR	1	
QR3026,27	MUN2113	TRANSISTOR-RESISTOR	2	
QR4001	MUN2212	TRANSISTOR-RESISTOR	1	
QR4002,03	MUN2213	TRANSISTOR-RESISTOR	2	
QR4005	MUN2213	TRANSISTOR-RESISTOR	1	
QR4508,09	UN5113	TRANSISTOR-RESISTOR	2	
QR4510	UN5212	TRANSISTOR-RESISTOR	1	
QR4602	UN5111	TRANSISTOR-RESISTOR	1	
QR4603	UN5213	TRANSISTOR-RESISTOR	1	
QR6001	XN1211	TRANSISTOR-RESISTOR	1	
QR6002	XN1213	TRANSISTOR-RESISTOR	1	
QR6004	UN2114	TRANSISTOR-RESISTOR	1	
QR6005	MUN2113	TRANSISTOR-RESISTOR	1	
QR6009	MUN2112	TRANSISTOR-RESISTOR	1	
QR6010	XN1211	TRANSISTOR-RESISTOR	1	
QR6012	MUN2211	TRANSISTOR-RESISTOR	1	
QR7304	MUN2213	TRANSISTOR-RESISTOR	1	
QR7601	MUN2213	TRANSISTOR-RESISTOR	1	
R301,02	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R303	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R304	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
R305	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R306	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R307	ERJ6GMYK225	M.RESISTOR CH 1/10W 2.2M	1	
R308	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R310	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R311	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R312	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R313,14	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R315	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R316	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R317	ERJ6GMYG221	M.RESISTOR CH 1/10W 220	1	
R318	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R319	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R320	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R321	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R324	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R325	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R326	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R327	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R328	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R329	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R330	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R331	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R332	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R333	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R334	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R336	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R337	ERJ6GMYG241	M.RESISTOR CH 1/10W 240	1	
R338	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R339	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R340	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R341	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R342,43	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R344	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R345	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R346	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R347, 48	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R349	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R350	ERJ6GMYK225	M.RESISTOR CH 1/10W 2.2M	1	
R351	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R353	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R358	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R359	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R361	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R362	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R363	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R364	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R367	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R369	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R371	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R372	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R373	ERJ6GMYG334	M.RESISTOR CH 1/10W 330K	1	
R375	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R376	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R377	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R378	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R0702	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R0704	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0705	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0706, 07	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R0708	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R0709	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R0710	ERJ6GEYG154	M.RESISTOR CH 1/10W 150K	1	
R0713	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R0714	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R0715	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R0716	VRE0040E151	M.RESISTOR CH 1/10W 150	1	
R0717	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0718	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0719	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R0720	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0722	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0728	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0729	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0732	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0783	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R1002	ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1003	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R1004	ERJ6GMYJ114	M.RESISTOR CH 1/10W 110K	1	
R1005	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R1006	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R1007	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R1101	ERG12SJ153	M.RESISTOR 1/2W 15K	1	
R1102	ERG3SJ563	M.RESISTOR 3W 56K	1	
R1104	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R1105	ERG12SJ153	M.RESISTOR 1/2W 15K	1	
R1107	ERJ6GEYJ164	M.RESISTOR CH 1/10W 160K	1	
R1108	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R1109	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R1110	ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R1111	ERDS2FJ102	C.RESISTOR 1/4W 1K	1	
R1112	ERJ8GEYJ304	M.RESISTOR CH 1/8W 300K	1	
R1113	ERJ8GEYJ474	M.RESISTOR CH 1/8W 470K	1	
R1114	ERX12SJR75	M.RESISTOR 1/2W 0.75	1	
R1115	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R1116	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
R1117	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R1118	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
⚠R1122	ERC12AGM334	S.RESISTOR 1/2W 330K	1	
R1123	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R1124	ERJ6GEYK475	M.RESISTOR CH 1/10W 4.7M	1	
R1125	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R1127	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R1128	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R1129	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R1131	ERJ6GMYG620	M.RESISTOR CH 1/10W 62	1	
R1132	ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R1135	ERJ8GEYJ274	M.RESISTOR CH 1/8W 270K	1	
R1136	ERJ8GEYJ474	M.RESISTOR CH 1/8W 470K	1	
R1137	ERG12SJ153	M.RESISTOR 1/2W 15K	1	
R2001	ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R2002	ERJ6GMYG913	M.RESISTOR CH 1/10W 91K	1	
R2003	ERDS2FJ7R5	C.RESISTOR 1/4W 7.5	1	
R2004	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R2005, 06	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R2007	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2008	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R2009	ERDS2FJ7R5	C.RESISTOR 1/4W 7.5	1	
R2010	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R2011	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R2012	ERDS2FJ6R8	C.RESISTOR 1/4W 6.8	1	
R2013	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2014	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2015	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R2016	ERDS2FJ6R8	C.RESISTOR 1/4W 6.8	1	
R2017	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2023, 24	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2026, 27	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2028	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R2040	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R2041	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R2042	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2045	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R3001, 02	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R3003	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3004	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3005	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R3007	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3008, 09	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	2	
R3010	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R3011	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3012	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3013	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3014	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3015	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3016	ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R3017	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R3018	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3019, 20	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	2	
R3021	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3022	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3023, 24	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	2	
R3025	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3026	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3029	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3030	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3033	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3034	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3037-39	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	3	
R3040	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3041	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3042	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3043	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3044	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R3045	ERJ6GMYG390	M.RESISTOR CH 1/10W 39	1	
R3046	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3047	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R3048	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3049	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3050	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R3051	ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R3052	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3053	ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R3054	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3055	ERJ6GMYJ823	M.RESISTOR CH 1/10W 82K	1	
R3056	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3057	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3058	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3059	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R3060	ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R3061	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3062	ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R3063	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3064, 65	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R3066	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3067	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R3068, 69	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R3070	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3073	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3076, 77	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R3079	ERJ6GMYG334	M.RESISTOR CH 1/10W 330K	1	
R3080	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R4001	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4002	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4003	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4004, 05	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	2	
R4006, 07	ERDS2TJ472	C.RESISTOR 1/4W 4.7K	2	
R4008, 09	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	2	
R4014	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R4018	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R4043	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4046	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R4055	ERG2SJ821	M.RESISTOR 2W 820	1	
R4057	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R4064-66	ERG1SJ270	M.RESISTOR 1W 27	3	
R4067, 68	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	2	
R4071, 72	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R4073	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R4074	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4075	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R4086	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4090, 91	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	2	
R4092	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R4501, 02	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4503	ERJ3GEYG223	M.RESISTOR CH 1/16W 22K	1	
R4504, 05	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4506, 07	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4508	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4509	ERJ3RBD622	M.RESISTOR CH 1/16W 6.2K	1	
R4511	ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4512	ERJ3RBD163	M.RESISTOR CH 1/16W 16K	1	
R4513	ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R4514	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4518, 19	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4522	ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R4527	ERJ3RBD333	M.RESISTOR CH 1/16W 33K	1	
R4528	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R4529	ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R4535	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4539	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4541	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4542	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4543	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R4551, 52	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4553, 54	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4558	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4561	ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4562	ERJ6RHD1242	M.RESISTOR CH 1/10W 12.4K	1	
R4563	ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	1	
R4568, 69	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4572	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4573	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R4577	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4578	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
R4581	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4583	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R4584	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R4585, 86	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4587, 88	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4591	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4592	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4593	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R4594	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4596	ERJ3GEYG473	M.RESISTOR CH 1/16W 47K	1	
R4597	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4598, 99	ERJ3GEYG104	M.RESISTOR CH 1/16W 100K	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4603	ERJ3GEYG163	M.RESISTOR CH 1/16W 16K	1	
R4606	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R4610	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4611	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4612	ERJ3RBD331	M.RESISTOR CH 1/16W 330	1	
R4613	ERJ3GEYG394	M.RESISTOR CH 1/16W 390K	1	
R4615	ERJ3RBD133	M.RESISTOR CH 1/16W 13K	1	
R4616	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4638	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4649	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4651	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R4653	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R4654	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4655	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4656	ERJ3GEYG243	M.RESISTOR CH 1/16W 24K	1	
R4657	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4666	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R4671	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5003	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5004	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R5005	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R5006	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R5007	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R5012	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R5013	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R5014	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R5016, 17	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5018	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R5019	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R5020	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5021, 22	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	2	
R5023	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R5025	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5027	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R5028, 29	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5030	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R5031	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6001	ERJ6GMYJ201	M.RESISTOR CH 1/10W 200	1	
R6002, 03	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R6004	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6005	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R6006, 07	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R6008	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6009	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R6010	ERDS2TJ333	C.RESISTOR 1/4W 33K	1	
R6011, 12	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R6013	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6015	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6017	ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R6018-20	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	3	
R6021	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6022	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6023	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6024	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
R6025	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R6026	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R6027	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6028	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6029	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R6030	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6031	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R6032	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6034, 35	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R6036	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6037, 38	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6040, 41	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R6042	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6043, 44	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6045	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R6047-50	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	4	
R6051	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R6052	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6053-55	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	3	
R6056, 57	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
R6058	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R6059	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6060	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R6061	ERJ6GMYG472	M. RESISTOR CH 1/10W 4. 7K	1	
R6062	ERJ6GMYJ244	M. RESISTOR CH 1/10W 240K	1	
R6063, 64	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R6068	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R6069	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6071	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R6072	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R6073	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R6075-77	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	3	
R6079	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6082	ERJ6GMYG822	M. RESISTOR CH 1/10W 8. 2K	1	
R6083	ERJ6GMYG243	M. RESISTOR CH 1/10W 24K	1	
R7302	ERJ3GEYG822	M. RESISTOR CH 1/16W 8. 2K	1	
R7303	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2. 2K	1	
R7304	ERJ3GEYG682	M. RESISTOR CH 1/16W 6. 8K	1	
R7305	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5. 6K	1	
R7307	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2. 7K	1	
R7311	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R7313	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R7320	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7323	ERJ3GEYG822	M. RESISTOR CH 1/16W 8. 2K	1	
R7324, 25	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	2	
R7326	ERJ3GEYG822	M. RESISTOR CH 1/16W 8. 2K	1	
R7327	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7328	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R7329	ERJ3GEYG682	M. RESISTOR CH 1/16W 6. 8K	1	
R7330	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R7331	ERJ3GEYG822	M. RESISTOR CH 1/16W 8. 2K	1	
R7336	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R7337	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R7345	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1. 8K	1	
R7352, 53	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R7354, 55	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	2	
R7358, 59	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R7362, 63	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R7601	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	1	
R7602, 03	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R7604	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	1	
R7605-07	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	3	
R7608	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
R7609	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7612	ERG2SJ331	M. RESISTOR 2W 330	1	
R7614	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R7615	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7616	ERG2SJ331	M. RESISTOR 2W 330	1	
R7617	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
T0703	EQV5EC071A	TRANSFORMER	1	
T0704	EQV5EC072A	TRANSFORMER	1	
⚠ T1101	VLT0750	TRANSFORMER	1	
T7301	EQR7QG028P	TRANSFORMER	1	
T7304	EIS5EC017A	TRANSFORMER	1	
T7305	EQS5EC033A	TRANSFORMER	1	
VR301	EVMEASA00B14	V. RESISTOR 10K	1	
VR302	EVMEASA00B53	V. RESISTOR 5K	1	
VR303	EVMEASA00B24	V. RESISTOR 20K	1	
VR0701	EVNCBAA00B24	V. RESISTOR 20K	1	
VR2001	EVNCYAA03B54	V. RESISTOR 50K	1	
VR3001	EVNCYAA03B23	V. RESISTOR 2K	1	
VR3012, 13	EVNCYAA03B52	V. RESISTOR 500	2	
VR3014	EVNCYAA03B54	V. RESISTOR 50K	1	
VR4501	EVMECSA00B53	V. RESISTOR 5K	1	
VR4502	EVMEASA00BY4	V. RESISTOR 33K	1	
VR4507	EVMEASA00BY4	V. RESISTOR 33K	1	
VR4509	EVMECSA00BY3	V. RESISTOR 3. 3K	1	
VR4550	EVMECSA00B14	V. RESISTOR 10K	1	
VR4551, 52	EVMECSA00B55	V. RESISTOR 500K	2	
VR7301, 02	EVNCBAA00B53	V. RESISTOR 5K	2	
VR8001	EVNCYAA03B23	V. RESISTOR 2K	1	
X301	VSX0162	CRYSTAL OSCILLATOR	1	
X302	VSX0160	CRYSTAL OSCILLATOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
X0703	EFCS5R5MW5	FILTER	1	
X0704	VLF1035	FILTER	1	
X6001	VSX0583	CRYSTAL OSCILLATOR	1	
X7301	EFCS5R5MS5	CRYSTAL OSCILLATOR	1	
X7304	EFCS5R74MS5B	FILTER	1	
X7305	VSX0648	CRYSTAL OSCILLATOR	1	
⚠ ZA1101, 02	EYF52BC	FUSE HOLDER	2	
ZA1103	VSC4141	SW SHIELD COVER	1	
		MISCELLANEOUS		
⚠	ENG47228G	TUNER	1	
	VMD1926	LED HOLDER	1	
	VMD1927	PHOTO TRANSISTOR HOLDER	1	
	VMD2029	REEL GUIDE	1	
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODULATOR C. B. A.
■	VEP03B27H	INPUT/OUTPUT C. B. A.		(RTL)
				NV-HD650MK2A
C3901	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3902	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C3903	ECA0JM471	E. CAPACITOR 6. 3V 470U	1	
C3904	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3905	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3908, 09	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	2	
C3910	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C3911	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7701	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7702	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C7703	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C7704	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C7705, 06	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C7707	ECEA0JKA220	E. CAPACITOR 6. 3V 22U	1	
C7708	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C7709	ECUM1H300JCN	C. CAPACITOR CH 50V 30P	1	
C7710	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C7711	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7712	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C7716	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C7717	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
D3901	MA4056-M	DIODE	1	
D7701	SVC251SPA	DIODE	1	
IC3901	MC14051BF	IC	1	
IC3902	MC14052BF	IC	1	
IC7701	UPD6464CS505	IC	1	
K7701	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
K7703	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
L3901	VLQ0599J330	COIL 33UH	1	
L3902	VLQ0599J680	COIL 68UH	1	
L3903	VLQ0599J101	COIL 100UH	1	
L7701	VLQ0599J4R7	COIL 4. 7UH	1	
L7702-04	VLQ0599J330	COIL 33UH	3	
P3901	VJS3537B008G	CONNECTOR (FEMALE) 8P	1	
PS3901	VJS3042B020W	CONNECTOR (FEMALE) 20P	1	
PS3902	VJS3042B018W	CONNECTOR (FEMALE) 18P	1	
Q3901	2SB709A	TRANSISTOR	1	
Q7701	MSC2295	TRANSISTOR	1	
R3901	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R3902	ERDS2TJ471	C. RESISTOR 1/4W 470	1	
R3903	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R3904	ERJ6GEYG750	M. RESISTOR CH 1/10W 75	1	
R3905, 06	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	2	
R3907	ERJ6GEYG750	M. RESISTOR CH 1/10W 75	1	
R3908, 09	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3910-13	ERJ6GEYG474	M. RESISTOR CH 1/10W 470K	4	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7701	ERJ6GEYG152	M. RESISTOR CH 1/10W 1. 5K	1	
R7702	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7703	ERJ6GEYG512	M. RESISTOR CH 1/10W 5. 1K	1	
R7704, 05	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
S3901	ESD172253	SWITCH	1	
		MISCELLANEOUS		
	VEJ1681	I/O JACK PLATE	1	
■	VEP04469G	MOTOR DRIVE C. B. A.		(RTL)
				NV-HD600MK2A
C2501, 02	ECEA1HKA2R2	E. CAPACITOR 50V 2. 2U	2	
C2503	ECA1EM470	E. CAPACITOR 25V 47U	1	
C2504	ECEA1HKNR22	E. CAPACITOR 50V 0. 22U	1	
C2505	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C2506	ECA1EM470	E. CAPACITOR 25V 47U	1	
C2507, 08	ECUM1E333KBN	C. CAPACITOR CH 25V 0. 033U	2	
C2509	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C2510	ECA0JM221	E. CAPACITOR 6. 3V 220U	1	
C2511	ECUM1E333KBN	C. CAPACITOR CH 25V 0. 033U	1	
C2512	ECQV1H683JM	P. CAPACITOR 50V 0. 068U	1	
C2513	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C2514-16	ECUM1E333KBN	C. CAPACITOR CH 25V 0. 033U	3	
C2517	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C2518	ECUM1C474ZFN	C. CAPACITOR CH 16V 0. 47U	1	
C2519	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C2520	ECUM1C474ZFN	C. CAPACITOR CH 16V 0. 47U	1	
C2521	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C2523	ECEA1HKA2R2	E. CAPACITOR 50V 2. 2U	1	
C2525	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C2540	ECEA1HKAR47	E. CAPACITOR 50V 0. 47U	1	
C4712	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4713	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C4714	ECQP1332JZ	P. CAPACITOR 100V 3300P	1	
C4715	ECCD2H181J	C. CAPACITOR 500V 180P	1	
C4716	ECUM1H153KBN	C. CAPACITOR CH 50V 0. 015U	1	
C4732	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
D2501, 02	MA185	DIODE	2	
D4702	MA151K	DIODE	1	
IC2501	BA6871S	IC	1	
K4708	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
K4710	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
L4702	ELESN471KA	COIL 470UH	1	
L4705, 06	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	2	
P2003	VJP3502	CONNECTOR (MALE)	1	
P2501	VJS3537A015G	CONNECTOR (FEMALE) 15P	1	
P2502	VJP1232T	CONNECTOR (MALE) 5P	1	
P2902	VJS1738T	CONNECTOR (FEMALE)	1	
P4002	VJS2329	CONNECTOR (FEMALE)	1	
P4003	VJP1230T	CONNECTOR (MALE) 3P	1	
P6003	VJP1242T	CONNECTOR (MALE) 2P	1	
PS2501	VJS3042B018W	CONNECTOR (FEMALE) 18P	1	
PS4701	VJS3042F011W	CONNECTOR (FEMALE) 11P	1	
Q4701	2SD602A-R	TRANSISTOR	1	
Q4703	2SB1320A-R	TRANSISTOR	1	
QR4703	MUN2214	TRANSISTOR-RESISTOR	1	
R2501	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R2502	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R2503, 04	ERDS2TJ560	C. RESISTOR 1/4W 56	2	
R2505	ERDS1TJ561	C. RESISTOR 1/2W 560	1	
R2506	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R2507	ERJ6GMYG432	M. RESISTOR CH 1/10W 4. 3K	1	
R2508	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R2509	ERJ6GMYJ684	M. RESISTOR CH 1/10W 680K	1	
R2510	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2511	ERJ6GMYG133	M. RESISTOR CH 1/10W 13K	1	
R2512	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R2513, 14	ERJ6GMYG472	M. RESISTOR CH 1/10W 4. 7K	2	
R2515	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R2516	ERJ6GMYG392	M. RESISTOR CH 1/10W 3. 9K	1	
R2517	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R2518	ERJ6GMYG392	M. RESISTOR CH 1/10W 3. 9K	1	
R2519	ERDS2TJ560	C. RESISTOR 1/4W 56	1	
R2520	ERX12SJR47	M. RESISTOR 1/2W 0. 47	1	
R2521, 22	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R2529	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R2530	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2531	ERJ6GMYG332	M. RESISTOR CH 1/10W 3. 3K	1	
R2532	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R2533	ERJ6GMYG563	M. RESISTOR CH 1/10W 56K	1	
R2534	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R4710	ERJ6GMYJ432	M. RESISTOR CH 1/10W 4. 3K	1	
R4715	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4723	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4735	ERJ6GMYG100	M. RESISTOR CH 1/10W 10	1	
T4701	VLT0702M	COIL	1	
VR2006	EVNDCAA03B15	V. RESISTOR 100K	1	
VR2011	EVNDCAA03B15	V. RESISTOR 100K	1	
VR4001	EVNDCAA03B15	V. RESISTOR 100K	1	
		MISCELLANEOUS		
	VEE9091	WIRE CABLE	1	(P2003-POWER TR.)
	VEE9112	WIRE CABLE	1	(P4003-FE HEAD)
	VWJ0868	FLAT CARD CABLE	1	(P2501-CAPSTAN)
	VEE9144	WIRE CABLE	1	(P2502-CYLINDER)
■	VEP04469N	MOTOR DRIVE C. B. A.		(RTL)
				NV-HD650MK2A
C2501, 02	ECEA1HKA2R2	E. CAPACITOR 50V 2. 2U	2	
C2503	ECA1EM470	E. CAPACITOR 25V 47U	1	
C2504	ECEA1HKNR22	E. CAPACITOR 50V 0. 22U	1	
C2505	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C2506	ECA1EM470	E. CAPACITOR 25V 47U	1	
C2507, 08	ECUM1E333KBN	C. CAPACITOR CH 25V 0. 033U	2	
C2509	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C2510	ECA0JM221	E. CAPACITOR 6. 3V 220U	1	
C2511	ECUM1E333KBN	C. CAPACITOR CH 25V 0. 033U	1	
C2512	ECQV1H683JM	P. CAPACITOR 50V 0. 068U	1	
C2513	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C2514-16	ECUM1E333KBN	C. CAPACITOR CH 25V 0. 033U	3	
C2517	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C2518	ECUM1C474ZFN	C. CAPACITOR CH 16V 0. 47U	1	
C2519	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C2520	ECUM1C474ZFN	C. CAPACITOR CH 16V 0. 47U	1	
C2521	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C2523	ECEA1HKA2R2	E. CAPACITOR 50V 2. 2U	1	
C2525	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C2540	ECEA1HKAR47	E. CAPACITOR 50V 0. 47U	1	
C4712	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4713	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C4714	ECQP1222JZ	P. CAPACITOR 100V 2200P	1	
C4715	ECCD2H181J	C. CAPACITOR 500V 180P	1	
C4716	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	1	
C4732	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
C4736	ECUM1H103KBN	C. CAPACITOR CH 50V 0. 01U	1	
C4737	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C4738	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C4739	ECQB1H333JZ	P. CAPACITOR 50V 0. 033U	1	
D2501, 02	MA185	DIODE	2	
D4702, 03	MA151K	DIODE	2	
IC2501	BA6871S	IC	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
K4707	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
K4711	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
L2503	VLP0083	COIL	1	
L4702	ELESN471KA	COIL 470UH	1	
L4704	ELESE101KA	COIL 100UH	1	
L4705, 06	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	2	
P2003	VJP3502	CONNECTOR (MALE)	1	
P2501	VJS3537A015G	CONNECTOR (FEMALE) 15P	1	
P2502	VJP1232T	CONNECTOR (MALE) 5P	1	
P2902	VJS1738T	CONNECTOR (FEMALE)	1	
P4002	VJS2329	CONNECTOR (FEMALE)	1	
P4003	VJP1230T	CONNECTOR (MALE) 3P	1	
P6003	VJP1242T	CONNECTOR (MALE) 2P	1	
PS2501	VJS3042B018W	CONNECTOR (FEMALE) 18P	1	
PS4701	VJS3042F011W	CONNECTOR (FEMALE) 11P	1	
Q4701	2SD602A-R	TRANSISTOR	1	
Q4703	2SB1320A-R	TRANSISTOR	1	
Q4706	2SB709A-R	TRANSISTOR	1	
Q4707	2SD602A-R	TRANSISTOR	1	
QR4702, 03	MUN2214	TRANSISTOR-RESISTOR	2	
R2501	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2502	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R2503, 04	ERDS2TJ560	C.RESISTOR 1/4W 56	2	
R2505	ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2506	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R2507	ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2508	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2509	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2510	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2511	ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2512	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2513, 14	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	2	
R2515	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2516	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2517	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2518	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2519	ERDS2TJ560	C.RESISTOR 1/4W 56	1	
R2520	ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2521, 22	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R2529	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R2530	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2531	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R2532	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R2533	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R2534	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4710	ERJ6GMYJ432	M.RESISTOR CH 1/10W 4.3K	1	
R4715	ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	
R4723	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4735	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
R4736	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4737	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4738	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
T4701	VLT0695	TRANSFORMER	1	
T4702	VLT0696	TRANSFORMER	1	
VR2006	EVNDCAA03B15	V.RESISTOR 100K	1	
VR2011	EVNDCAA03B15	V.RESISTOR 100K	1	
VR4001	EVNDCAA03B15	V.RESISTOR 100K	1	
		MISCELLANEOUS		
	VEE9091	WIRE CABLE	1	(P2003-POWER TR.)
	VEE9112	WIRE CABLE	1	(P4003-FE HEAD)
	VWJ0868	FLAT CARD CABLE	1	(P2501-CAPSTAN)
	VEE9144	WIRE CABLE	1	(P2502-CYLINDER)
■	VEP05330A	HEAD AMP C.B.A.		(RTL) NV-HD600MK2A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C501	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C502, 03	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C504	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C505	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C506	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C507	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C508, 09	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C510, 11	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C512, 13	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C514, 15	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C516-18	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C519	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C521	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C523	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C524	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C527	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C528	ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C529	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C530	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C532	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C541	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C542	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C551	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C552	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C553	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C554-57	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C558	ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C559	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C560	ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C561	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C562	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
D501	1SS254	DIODE	1	
D502, 03	MA151WA	DIODE	2	
D551	MA151WA	DIODE	1	
D552	1SS254	DIODE	1	
IC501	AN3360SB	IC	1	
K501-04	VLP0145	COIL	4	
L501, 02	ELEXH680JBV	INDUCTOR 68UH	2	
L505	ELEXH121JBV	INDUCTOR 120UH	1	
L506	ELEXH151JBV	INDUCTOR 150UH	1	
L507	ELEXH680JBV	INDUCTOR 68UH	1	
L551, 52	ELEXH680JBV	INDUCTOR 68UH	2	
P501	VJS3537B020G	CONNECTOR (FEMALE) 20P	1	
P502	VJS2603	CONNECTOR (FEMALE)	1	
Q503	MSD601	TRANSISTOR	1	
QR501	MUN2213	TRANSISTOR-RESISTOR	1	
QR502	UN2221	TRANSISTOR-RESISTOR	1	
QR551	MUN2213	TRANSISTOR-RESISTOR	1	
R501	ERDS2TJ273	C.RESISTOR 1/4W 27K	1	
R503	ERJ6RBD102	M.RESISTOR CH 1/10W 1K	1	
R504	ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R505	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R506	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R507	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R508-11	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	4	
R512, 13	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	2	
R514	ERJ6GMYG242	M.RESISTOR CH 1/10W 2.4K	1	
R515	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R516	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R517	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R518, 19	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	2	
R526, 27	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R528	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R529	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
R530	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R532	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R533	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R549	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R551	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R552	ERJ6RED160	M.RESISTOR CH 1/10W 16	1	
R553, 54	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R555	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R556	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
		MISCELLANEOUS		
	VSC3478	H.A SHIELD COVER (MAIN)	1	
	VSC3714	SHIELD COVER (TOP)	1	
	VSC3715	SHIELD COVER (BOTTOM)	1	
■	VEP05227A	HEAD AMP C.B.A.		(RTL)
				NV-HD650MK2A
C501	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C502, 03	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C504, 05	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C506, 07	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C508	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C509	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C510	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C511, 12	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C513	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C514	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C515	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C516-20	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C521	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C522	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C523	VCEA0JAG221	F CAPASITOR 6.3V 220U	1	
C524	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C525, 26	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C527	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C529	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C530	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C531, 32	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C533	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C534	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C535	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C536	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C537	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C538-41	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C542	ECEA0JPK221	E.CAPACITOR 6.3V 220U	1	
C543	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C544	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C545	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C547	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
IC501	AN3336SB	IC	1	
IC502	BA7743FS	IC	1	
L501-04	ELEXH680JBV	INDUCTOR 68UH	4	
L505	ELEXH820JBV	INDUCTOR 82UH	1	
L506	ELEXH151JBV	INDUCTOR 150UH	1	
L507-10	VLP0145	COIL	4	
P501	VJS3537B020G	CONNECTOR (FEMALE) 20P	1	
P502	VJS2603	CONNECTOR (FEMALE)	1	
QR501	MUN2113	TRANSISTOR-RESISTOR	1	
R501	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R502	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
R503-05	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	3	
R506	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R507	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R508	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R509	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
R510	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R511	ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R512	ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R513	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
R514	ERJ6GEYG271	M.RESISTOR CH 1/10W 270	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R515	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R516	ERJ6GMYJ274	M.RESISTOR CH 1/10W 270K	1	
R517	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R518	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R519	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R520, 21	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	2	
R522	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R523	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R524	ERJ6RED100	M.RESISTOR CH 1/10W 10	1	
R525	ERJ6GMYG224	M.RESISTOR CH 1/10W 220K	1	
R526	ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	
R527	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R528	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R530	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R531	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R532	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R533	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R534	ERJ6GMYG243	M.RESISTOR CH 1/10W 24K	1	
R535	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R536	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R537	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R538	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R539	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R540	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
		MISCELLANEOUS		
	VSC3478	H.A SHIELD COVER (MAIN)	1	
	VSC3714	SHIELD COVER (TOP)	1	
	VSC3715	SHIELD COVER (BOTTOM)	1	
■	VEP07772X	TIMER C.B.A.		(RTL)
				NV-HD600MK2A
C7501	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7502	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7503	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C7504, 05	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7506	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7507	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7508	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7509	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7510	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7511	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7512	ECRHA010A54R	V.CAPACITOR 50K	1	
C7513	ECUM1H270JCN	C.CAPACITOR CH 50V. 27P	1	
C7514	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7515	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7516	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C7517	VCE0073	E.CAPACITOR	1	
C7518-25	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	8	
C7526	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7530	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
D7501, 02	MA221	DIODE	2	
D7503, 04	1SS254	DIODE	2	
D7505	MA221	DIODE	1	
D7506-08	1SS254	DIODE	3	
D7515	1SS254	DIODE	1	
D7528	1SS254	DIODE	1	
D7532	MA4220	DIODE	1	
D7533	1SS254	DIODE	1	
D7538-40	1SS254	DIODE	3	
D7541	LN81RCPH	LED	1	
D7542	1SS254	DIODE	1	
D7546	1SS254	DIODE	1	
DP7501	VSL0325	DISPLAY TUBE	1	
IC7501	M37507V4BU	IC	1	
IC7502	M6M80041P	IC	1	
IC7503	RPM675CBRX10	IR RECEIVER UNIT	1	
IC7504	PST7023	IC	1	
IC7505	S80743AL	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
K7509	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K7514	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K7516,17	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
P7501	VJS3537B032G	CONNECTOR (FEMALE) 32P	1	
Q7501	2SD1991A	TRANSISTOR	1	
QR7502	MUN2213	TRANSISTOR-RESISTOR	1	
QR7503	MUN2211	TRANSISTOR-RESISTOR	1	
R7501-03	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	3	
R7504	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7505	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R7506-11	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	6	
R7513,14	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	2	
R7515	ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R7518	ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R7519	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R7520	ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R7521	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7524	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7534,35	ERJ6GEYG132	M.RESISTOR CH 1/10W 1.3K	2	
R7536	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7537	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7539	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R7540	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R7542	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7544	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7545	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R7546	ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1	
R7549	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R7550	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7551,52	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
R7554,55	ERDS2TJ221	C.RESISTOR 1/4W 220	2	
R7556	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
SW7502-04	EVQ11409K	SWITCH	3	
SW7506-10	EVQ11409K	SWITCH	5	
SW7512-15	EVQ11409K	SWITCH	4	
SW7518	ESD172352	SWITCH	1	
X7501	VSX0608	CRYSTAL OSCILLATOR	1	
X7502	VSX0094	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VJF1122	FIP HOLDER	1	
	VMD1047	LED SPACER	1	
	VMD2247	IR RECEIVER HOLDER	1	
■	VEP07773N	TIMER C.B.A.		(RTL)
				NV-HD650MK2A
C7501	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7502	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7504	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7507	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7508	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7509	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7510	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7511	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7513	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7514	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7515	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7516	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C7517	VCE0073	E.CAPACITOR	1	
C7519,20	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C7521	ECUX1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C7522	ECEA0JKA330	E.CAPACOTOR 6.3V 33U	1	
C7524	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7525	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7526,27	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7528,29	ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C7531	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7533-35	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C7536	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
D7501-08	1SS254	DIODE	8	
D7510,11	1SS254	DIODE	2	
D7516	1SS254	DIODE	1	
D7518-20	1SS254	DIODE	3	
D7526	1SS254	DIODE	1	
D7528,29	1SS254	DIODE	2	
D7531	1SS254	DIODE	1	
D7532	MA4220	DIODE	1	
D7533	MA723VT	DIODE	1	
D7541	HLMK-D215	DIODE	1	
D7542	1SS254	DIODE	1	
D7546	1SS254	DIODE	1	
D7554	1SS355	DIODE	1	
D7560	1SS355	DIODE	1	
D7564	1SS355	DIODE	1	
DP7501	VSL0336	DISPLAY TUBE	1	
IC7501	M37507V8AH	IC	1	
IC7502	MGM80041P	IC	1	
IC7504	PST7023	IC	1	
IC7505	S80743AL	IC	1	
IC7506	BA6810F	IC	1	
IR7501	RPM675CBRX10	IR RECEIVER UNIT	1	
K7503	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
LB7501,02	VLP0145	COIL	2	
P7501	VJS3537B032G	CONNECTOR (FEMALE) 32P	1	
P7502	VJS3537B012G	CONNECTOR (FEMALE) 12P	1	
P7503	VJS3301	CONNECTOR (FEMALE)	1	
PP7501	VJP3405A009W	CONNECTOR (MALE) 9P	1	
QR7501	MUN2112	TRANSISTOR-RESISTOR	1	
QR7502	MUN2213	TRANSISTOR-RESISTOR	1	
QR7503	MUN2211	TRANSISTOR-RESISTOR	1	
QR7505-08	MUN2113	TRANSISTOR-RESISTOR	4	
QR7509-11	MUN2111	TRANSISTOR-RESISTOR	3	
QR7512,13	MUN2112	TRANSISTOR-RESISTOR	2	
R7501-03	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	3	
R7504	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7505	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R7506-11	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	6	
R7513	ERJ6GEYG132	M.RESISTOR CH 1/10W 1.3K	1	
R7514	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7515	ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R7516	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7518	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7519	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R7520,21	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	2	
R7527	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R7528	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R7529,30	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	2	
R7531	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7532	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
R7535	ERJ6GEYG132	M.RESISTOR CH 1/10W 1.3K	1	
R7537,38	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	2	
R7539	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R7540	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R7541	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7542	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7545	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7546	ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1	
R7547	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R7548	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7550	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7552	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7555,56	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7558	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7559	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
RX7501, 02	EXBF6E104J	RESISTOR-RESISTOR	2	
RX7503	EXBF8E104J	RESISTOR-RESISTOR	1	
S7501-09	EVQ11409K	SWITCH	9	
S7510	VSQ0822	JOG/SHUTTLE ENCODER	1	
S7512, 13	EVQ11409K	SWITCH	2	
S7518	ESD170306	SWITCH	1	
VC7501	ECRHA010A54R	V. CAPACITOR 50K	1	
VR4004	EVNCYAA03B53	V. RESISTOR 5K	1	
X7501	VSX0608	CRYSTAL OSCILLATOR	1	
X7502	VSX0094	CRYSTAL OSCILLATOR	1	
ZB7501	VJF1139	FIP HOLDER	1	
ZB7503	VMD1047	LED SPACER	1	
ZB7504	VMD2035	JOG/SHUTTLE HOLDER	1	
ZB7505	VMD2247	IR RECEIVER HOLDER	1	
ZB7506	VGU4537	SLIDE KNOB	1	
■	VEP06995C	POWER SWITCH C. B. A.		(RTL) NV-HD650MK2A
C6501, 02	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	2	
C6503	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C6504	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C6505	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C6506	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C6507	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C6508	ECEA1CKA220	E. CAPACITOR 16V 22U	1	
C6509	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C6510	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
D6501	1SS254	DIODE	1	
D6502	MA4051-L	DIODE	1	
D6503-07	1SS254	DIODE	5	
IC6501	M5220FP	IC	1	
JK6501	VJJ0169	JACK	1	
JK6502	VJJ0416	JACK	1	
JK6505	VJJ0263	JACK	1	
P6501	VJS3537B008G	CONNECTOR (FEMALE) 8P	1	
PS6501	VJS3405A009A	CONNECTOR (FEMALE) 9P	1	
Q6501	2SD1328	TRANSISTOR	1	
R6501	ERJ6GMYG750	M. RESISTOR CH 1/10W 75	1	
R6502, 03	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R6504	ERJ6GMYG472	M. RESISTOR CH 1/10W 4. 7K	1	
R6505	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R6506	ERJ6GMYG472	M. RESISTOR CH 1/10W 4. 7K	1	
R6507	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R6508	ERJ6GMYG332	M. RESISTOR CH 1/10W 3. 3K	1	
R6509, 10	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R6511	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	1	
R6512	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6513, 14	ERDS2TJ102	C. RESISTOR 1/4W 1K	2	
R6515, 16	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	2	
S6501, 02	EVQ11409K	SWITCH	2	
■	VEP00U88A	MAIN INTERFACE C. B. A.		(RTL) NV-HD600MK2A
PS1501	VJS3042B003W	CONNECTOR (FEMALE) 3P	1	
PS6005	VJS3042B003W	CONNECTOR (FEMALE) 3P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP00V29A	MAIN INTERFACE C. B. A.		(RTL) NV-HD650MK2A
PS1501	VJS3043B003W	CONNECTOR (FEMALE) 3P	1	
PS6005	VJS3043B003W	CONNECTOR (FEMALE) 3P	1	
■	VEP00U71A	S-TAB C. B. A.		(RTL) NV-HD600MK2A
PP1501	VJP3042G003W	CONNECTOR (MALE) 3P	1	
Q1501	PN205L-NC. VT	PHOTO TRANSISTOR	1	
SW1501	VES0695	S-TAB SWITCH	1	
		MISCELLANEOUS		
	VMD1927	PHOTO TRANSISTOR HOLDER	1	
■	VEP00V88A	S-TAB C. B. A.		(RTL) NV-HD650MK2A
PP1501	VJP3043G003W	CONNECTOR (MALE) 3P	1	
Q1501	PN205L-NC. VT	PHOTO TRANSISTOR	1	
S1501	VES0695	S-TAB SWITCH	1	
		MISCELLANEOUS		
	VMD1927	PHOTO TRANSISTOR HOLDER	1	
■	VEX0129	CYLINDER DRIVE C. B. A.		(RTL)
C2901-03	ECEA1VSN2R2	E. CAPACITOR 35V 2. 2U	3	
C2904-06	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	3	
C2907	ECUM1E683KBN	C. CAPACITOR CH 25V 0. 068U	1	
C2908	ECUM1E473KBN	C. CAPACITOR CH 25V 0. 047U	1	
C2910	ECEA1CKS100	E. CAPACITOR 16V 10U	1	
IC2901	AN3814K	IC	1	
P2901	VJP2603W	CONNECTOR (MALE) 12P	1	
P2902	VJP1232T	CONNECTOR (MALE) 5P	1	
R2901	ERX12SJR68	M. RESISTOR CH 1/2W 0. 68	1	
		MISCELLANEOUS		
	VMA9138	MAIN HOLDER	1	
■	----------	MOTOR C. B. A.		
		MISCELLANEOUS		
	VJP3316B002	CONNECTOR (MALE) 2P	1	

INTERNAL REFERENCE CODE

NOTE : This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
MAIN SYUGO (HD600MK2A)	HOAI02-0284A
MAIN SYUGO (HD650MK2A)	HOAI02-0317A
LUMINANCE & CHROMINANCE (HD600MK2A)	HOAI01-03B22
LUMINANCE & CHROMINANCE (HD650MK2A)	HOAI00-03D27
OSD PACK (HD600MK2A)	HOAI00-06979
TIMER SYUGO (HD600MK2A)	HOAI01-0285A
TIMER SYUGO (HD650MK2A)	HOAI01-0318A
INPUT/OUTPUT (HD650MK2A)	HOAI00-03B27

Panasonic
MATSUSHITA ELECTRIC

Printed in Japan

ORDER NO. VRD9505M114

Service Manual

Video Cassette Recorder

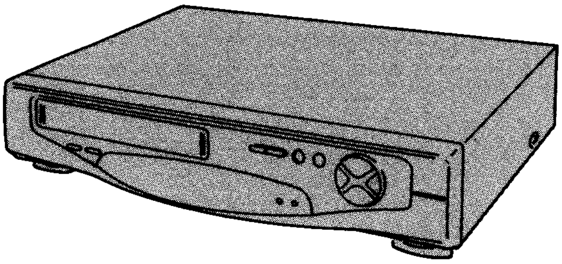
Panasonic VHS PAL

Hi-Fi HQ

NV-HD600EG

K-MECHANISM

General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	SOURCE: 220~240V AC 50/60Hz
	CONSUMPTION: 21 watts
RECORDING SYSTEM	2 rotary heads, helical scanning system
	PAL
TV TUNER SYSTEM	VHF I: CHN1~CHS10 VHF III: CHE5~CHS41 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
RF OUT SYSTEM	UHF: CH 36±6 (PAL/SECAM G) 70^{+2}_{-3}dBμ, 75Ω terminated
VIDEO	HEADS: 4 rotary heads 1 pair for recording and playback (L-R heads) 1 pair for trick play (L′-R′ heads)
	INPUT: EURO AV Connector (21 pin × 2) 1.0Vp-p, 75Ω unbalanced
	OUTPUT: EURO AV Connector (21 pin × 2) 1.0Vp-p, 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal-mono only) 2 channels (Hi-Fi Sound-Stereo)
	INPUT: EURO AV Connector (21 pin × 2) More than −6dBV (500mV), 10kΩ
	OUTPUT: AUDIO OUT Connector (Phono type) −8dBV (400mV), Less than 1kΩ EURO AV Connector (21 pin × 2) −6dBV (500mV), Less than 1kΩ

ITEM	SPECIFICATION
TAPE SPEED	SP: 23.39mm/s LP: 11.695mm/s Record/Playback Time: SP: 4 hours with 240min. type tape LP: 8 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
DIMENSIONS	430(W) × 91(H) × 310(D) mm
WEIGHT	4.7kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. AC Mains Lead 1 pc. Infra-res Remote Controller

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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⚠ **WARNING**
This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with technical know how for actual servicing and general information of features and controls, enabling you to become familiar with each function.
Section 2 presents to your mechanical and electrical adjustment information as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to the appropriate service manual.
Section 3, 4 contains block diagrams which provides you with information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c. ...
Section 5 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

CONTENTS

SECTION 1 GENERAL DESCRIPTIONS 1-1
- 1-1. SERVICE INFORMATION 1-1
- 1-2. SELF-TEST INDICATION DISPLAY 1-7
- 1-3. SERVICE INFORMATION DISPLAY 1-8
- 1-4. OPERATING INSTRUCTIONS 1-17

SECTION 2 ADJUSTMENT PROCEDURES 2-1
- 2-1. DISASSEMBLY METHOD 2-1
- 2-2. MECHANICAL ADJUSTMENT PROCEDURES 2-3
- 2-3. DISASSEMBLY PROCEDURES OF MECHANISM 2-3
- 2-4. ASSEMBLY PROCEDURES OF MECHANISM 2-3
- 2-5. ELECTRICAL ADJUSTMENT PROCEDURES 2-6

SECTION 3 ABBREVIATIONS & BLOCK DIAGRAMS 3-1

3-1. ABBREVIATIONS 3-1
3-2. SYSTEM CONTROL & SERVO BLOCK DIAGRAM 3-7
3-3. LUMINANCE & CHROMINANCE BLOCK DIAGRAM 3-12
3-4. Hi-Fi AUDIO BLOCK DIAGRAM 3-17

SECTION 4 SCHEMATIC DIAGRAMS 4-1

4-1. POWER SUPPLY SECTION IN MAIN SCHEMATIC DIAGRAM 4-1
4-2. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM 4-4
4-3. MAIN C.B.A. 4-7
4-4. RF SECTION IN MAIN SCHEMATIC DIAGRAM 4-10
4-5. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM 4-14
4-6. MOTOR DRIVE & SUB AUDIO PACK SCHEMATIC DIAGRAM 4-18
4-7. MOTOR DRIVE & SUB AUDIO PACK C.B.A. 4-22
4-8. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM 4-25
4-9. LUMINANCE & CHROMINANCE PACK C.B.A. 4-28
4-10. Hi-Fi AUDIO PACK SCHEMATIC DIAGRAM 4-31
4-11. Hi-Fi AUDIO PACK C.B.A. 4-34
4-12. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM 4-37
4-13. INPUT/OUTPUT PACK C.B.A. 4-40
4-14. OSD PACK C.B.A. 4-42
4-15. OSD PACK SCHEMATIC DIAGRAM 4-44
4-16. DECODER PACK SCHEMATIC DIAGRAM 4-47
4-17. DECODER PACK C.B.A. 4-49
4-18. HEAD AMP SCHEMATIC DIAGRAM 4-50
4-19. HEAD AMP C.B.A. 4-52
4-20. TIMER C.B.A. 4-54
4-21. TIMER SCHEMATIC DIAGRAM 4-58
4-22. TV DEMODULATOR PACK SCHEMATIC DIAGRAM 4-61
4-23. TV DEMODULATOR PACK C.B.A. 4-63

SECTION 5 EXPLODED VIEWS & PARTS LIST 5-1

5-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST 5-1
  1. CHASSIS PARTS SECTION (1) 5-1
  2. CHASSIS PARTS SECTION (2) 5-3
  3. CASING PARTS SECTION 5-4
  4. PACKING PARTS SECTION 5-6
  5. REMOTE CONTROLLER UNIT 5-7
5-2. ELECTRICAL REPLACEMENT PARTS LIST 5-8

SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

1-1-1. CHANNEL MEMORY IC INITIALIZATION

When replacing the memory IC7704, its IC should be initialized.

Note:1) It should be performed before tuning.
2) Meaning of "INITIALIZATION" is to make dependency in different models and to distinguish between different features.

Method:
1) Connect a jumper wire (K2501) which has been cut as shown below.

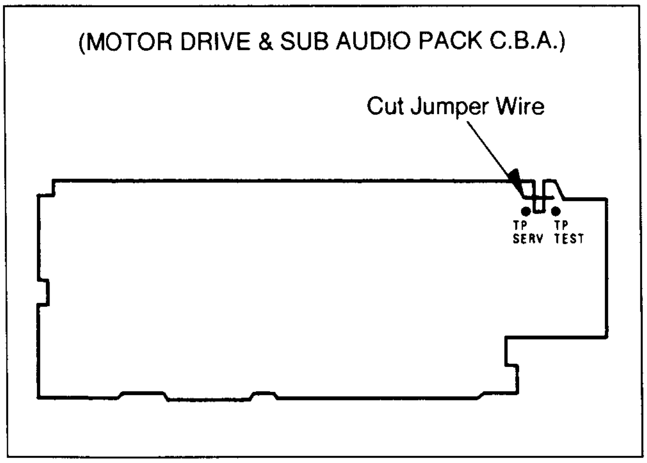


Fig. S1

2) Press the "FF", "REW" and "EJECT" buttons to set the Service Mode. (Test Mode will be appeared on the monitor TV.)
3) Set the Model Code for this model by using 10-key on the Remote Controller Unit as follows.
4) After finishing the initialization, cut the K2501 and cancel the Service Mode.

		NV-HD600EG
Code No.	IR	129
	OSD	128

Note:1) Set to IR No. when there is OSD button on the Remote Controller.
2) Set to OSD No. when there is not OSD button on the Remote Controller.

1-1-2. SERVICE POSITION

A. CHECKING OF MAIN C.B.A.

When servicing the MAIN C.B.A., take out the MAIN C.B.A. and mechanism from the frame and turn over.

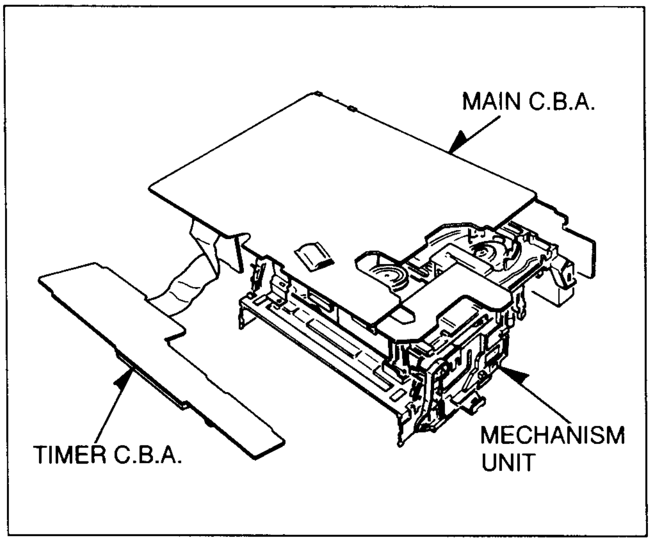


Fig. S2

B. MECHANISM SERVICE POSITION

When servicing the K-Mechanism, take out the mechanism from the MAIN C.B.A. and connect Extention Cable (VFK0889) between the loading-motor connector and P2001 as shown below.
In this position, the following services are possible.

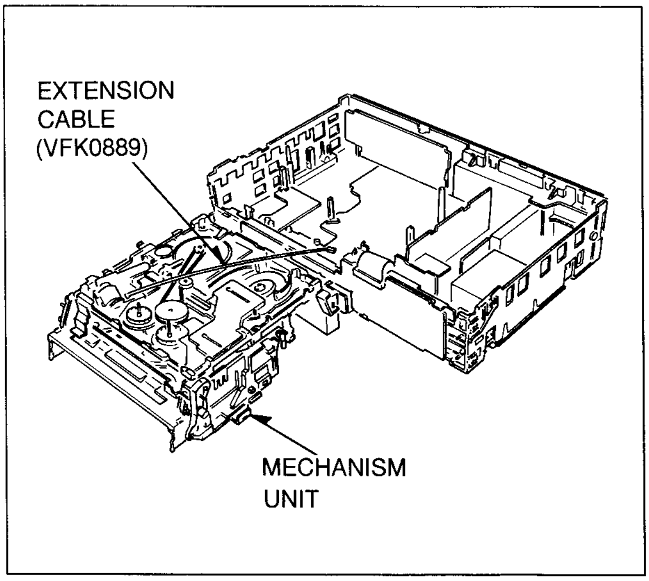


Fig. S3

B-1. CHECKING OF GEAR PHASE ALIGNMENT CONDITION

1) Check gear phase Alignment Condition of Mechanism.

B-2. CHECKING OF LOADING/UNLOADING OPERATION

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Turn the Worm Gear or the Worm Wheel Gear (Remove the Loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Extention Cable (VFK0889).
   2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./+4.5V) to the Loading Motor terminals.

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. (Press the "FF", "REW" and "EJECT" buttons simultaneously.)
   2) Press the "FF", "REW" and "EJECT" buttons 7 times to set the Service Mode 7. (The end of display on the Display becomes "--".)
   3) In the above Service Information Display mode, the Loading Motor rotates for Loading operation when the "PLAY" button is pressed.
      The Loading Motor rotates for unloading operation when the "STOP" button is pressed.

Remark:
Use the "SERVICE INFORMATION DISPLAY" mode for a final check of mechanism movement.

B-3. CHECKING OF REEL GEARS OPERATION

1) Move the mechanism to "PLAY" position by loading operation. (Refer to B-2)
2) Turn the Capstan Rotor Unit to check movement of reel gears.

C. INPUT/OUTPUT PACK AND MOTOR DRIVE & SUB AUDIO PACK C.B.A.s SERVICE POSITION

Use the extension cables when checking.

PART NO.	PART NAME	PCS	CONNECTION
VFK0939	13-PIN WIRE CABLE	1	PP3901 (MAIN) – PS3901 (I/O)
VFK0678	18-PIN WIRE CABLE	1	PP3902 (MAIN) – PS3902 (I/O)
VFK0917	11-PIN WIRE CABLE	1	PP2001 (MAIN) – PS2501 (M. DRIVE)
VFK0918	17-PIN WIRE CABLE	1	PP2002 (MAIN) – PS4701 (M. DRIVE)

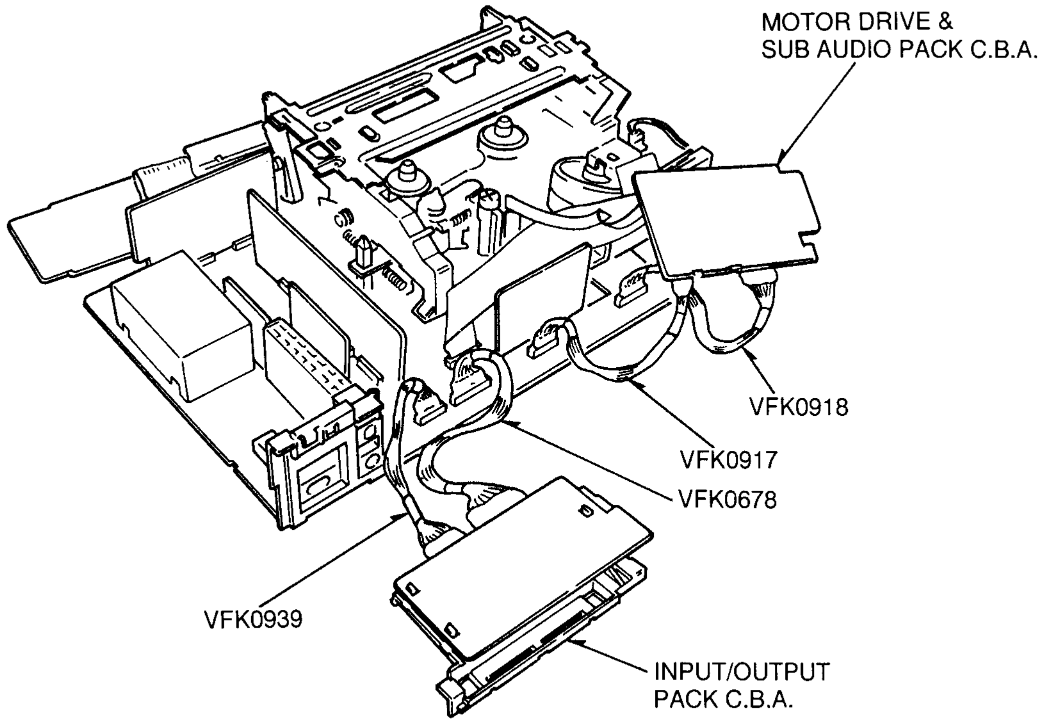


Fig. S4

D. UPPER CYLINDER REPLACEMENT

D-1. UPPER CYLINDER DISASSEMBLY

1) Remove the Top Panel.
2) Remove the Screw (A) and Cylinder Angle.
3) Remove the Screw (B) and Earth Plate.
4) Lift up the Upper Cylinder.

Note: Do not remove 3 Screws on the Upper Cylinder.

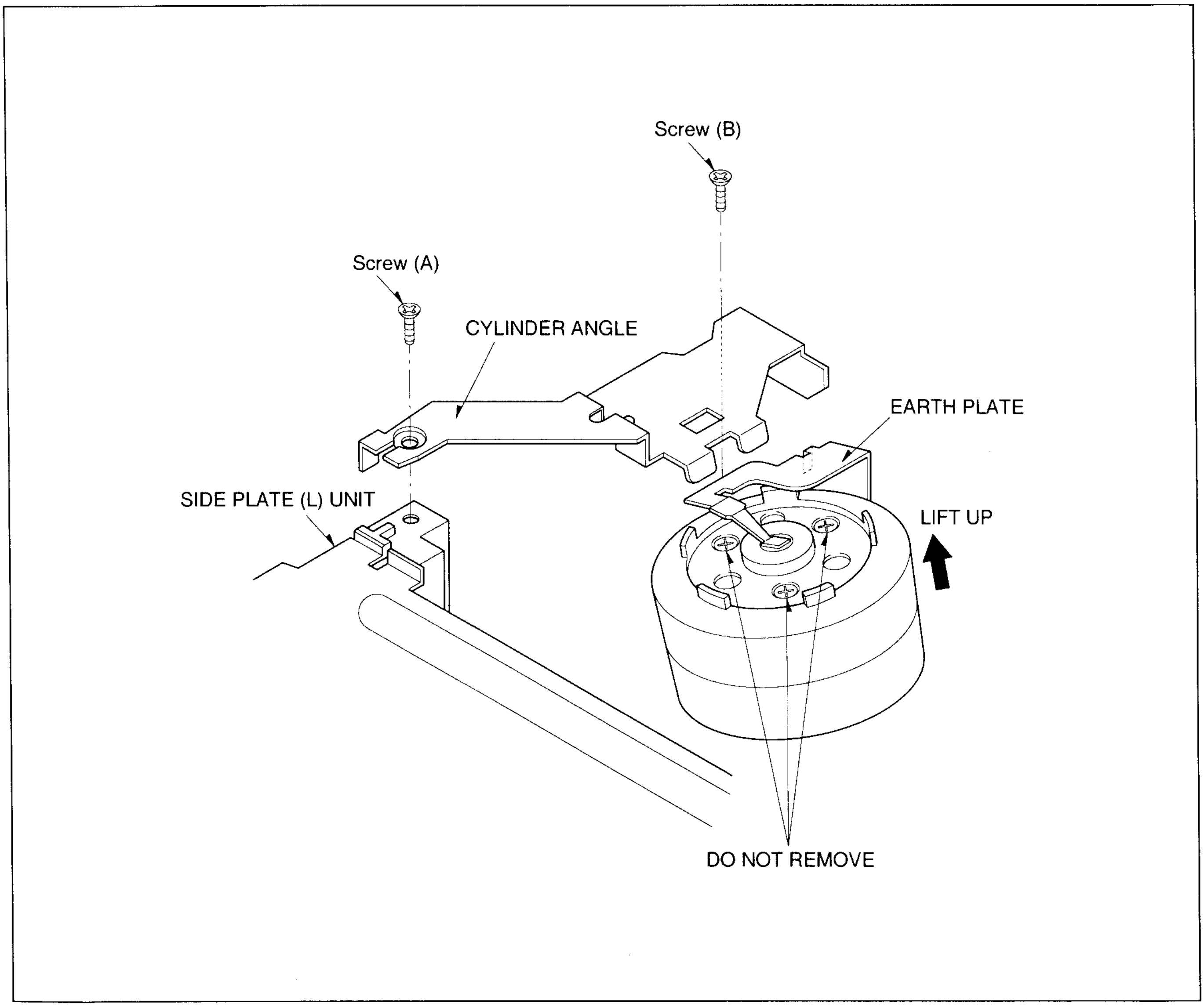
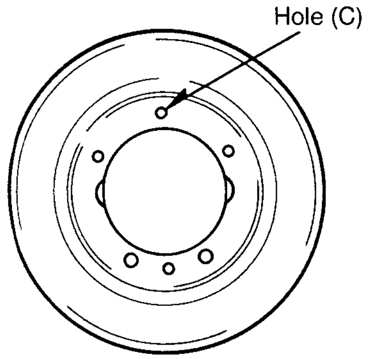

Screw (B)
Screw (A)
CYLINDER ANGLE
EARTH PLATE
SIDE PLATE (L) UNIT
LIFT UP
DO NOT REMOVE

Fig. S5

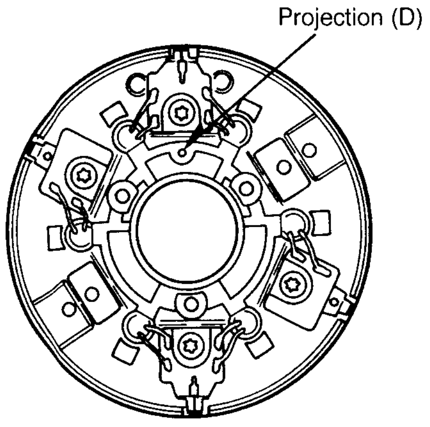
Do not remove the Rotor Magnet which fixed by 3 screws on the Upper Cylinder.

If it is removed, refer to following method.

1) Install the Rotor Magnet so that the hole (C) on the Rotor Magnet fits to the small projection (D) on bottom of the Upper Cylinder.
2) Tighten 3 screws on top of the Upper Cylinder.



ROTOR MAGNET



UPPER CYLINDER

Fig. S6

D-2. UPPER CYLINDER ASSEMBLY

When reassembling, perform the steps in the reverse order of the DISASSEMBLY METHOD (Item D-1).

E. NEW GLDD CYLINDER UNIT REPLACEMENT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the 2 screws (RED) of Head Amp Mount.
3) Remove the Screw (A) and Cylinder Angle. (Fig. S5)
4) Remove the Screw (B) and Earth Plate. (Fig. S5)
5) Remove the 3 screws of the Cylinder Unit with a magnetized screw driver through the holes on the Bottom Plate as shown below.

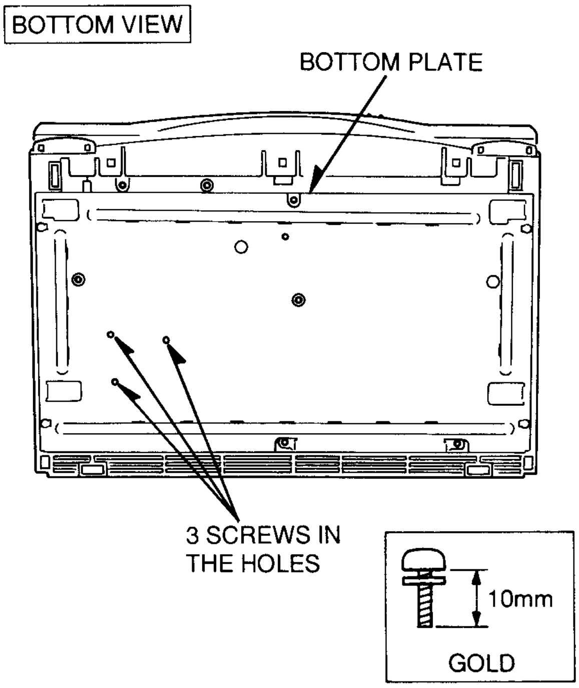


Fig. S7

F. CAPSTAN STATOR UNIT ASSEMBLY

When replacing the Cspstan Stator Unit, the Centre Fixing Tool (VFK0851) must be used to fix the centre of Capstan Stator Unit.

Method:

1) Place the Capstan Stator Unit into position.
2) Loosely tighten the 3 screws.
3) Insert the Centre Fixing Tool (VFK0851) as shown below.
4) Tighten the 3 screws.
5) Remove the Centre Fixing Tool.

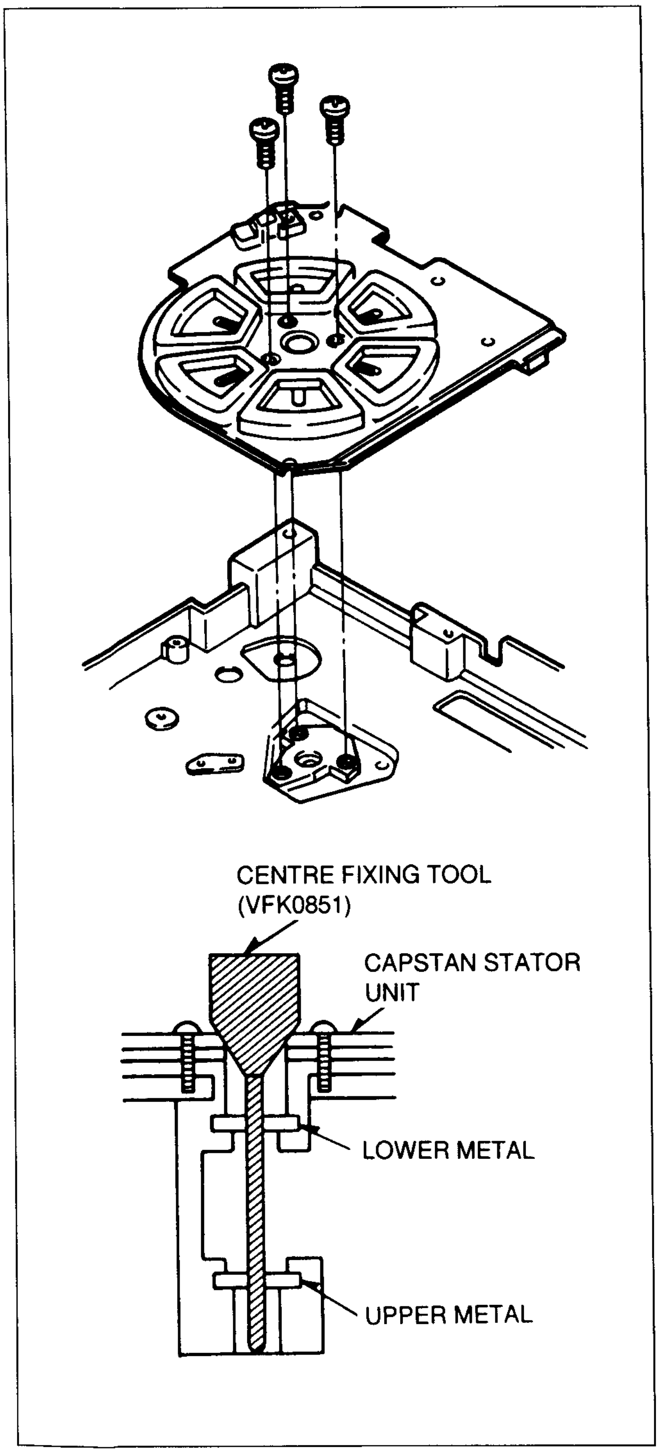

CENTRE FIXING TOOL
(VFK0851)
CAPSTAN STATOR UNIT
LOWER METAL
UPPER METAL

Fig. S8

G. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
To perform the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

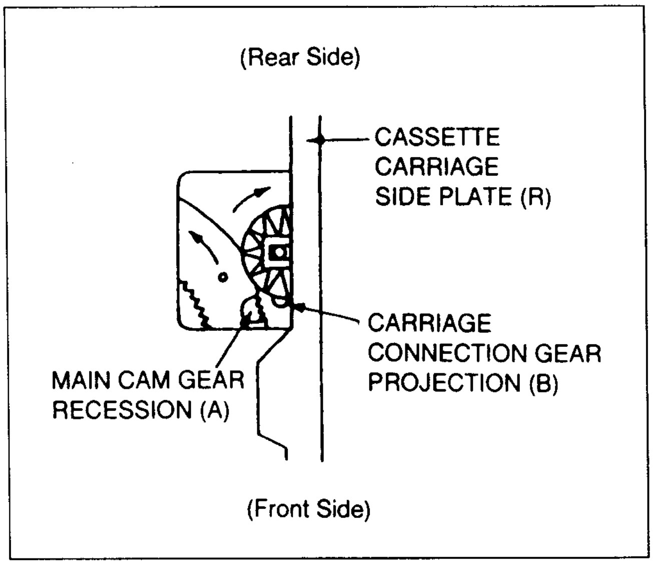

(Rear Side)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(Front Side)

Fig. S9 Top View of Eject Operation

H. TAKE-UP PHOTO SENSOR OPERATION

Note the following matters for Take-up Photo Sensor Operation.

1) While servicing of the K-Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take-up Photo Sensor. In this case, cover the Take-up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K-Mechanism with “Power On” and without cassette tape inserted, the Unit does not operate properly.

1-1-3. REMOVAL OF THE CASSETTE TAPE

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Take out the mechanism from MAIN C.B.A.
2) Turn the Worm Gear manually, moving the Loading Post to the unloaded position.
3) Turn the Capstan Rotor Unit clockwise to take up the tape.
4) Turn the Worm Gear again to eject the cassette.

2. BATTERY OPERATION

1) Take out the mechanism from Main C.B.A.
2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./ +4.5V) to the Loading Motor terminals as shown below.
3) After moving the Loading Post to the unloaded position, disconnect the battery to stop the motor.
4) Turn the Capstan Rotor Unit to clockwise to take up the tape.
5) Reconnect the battery to eject the cassette.

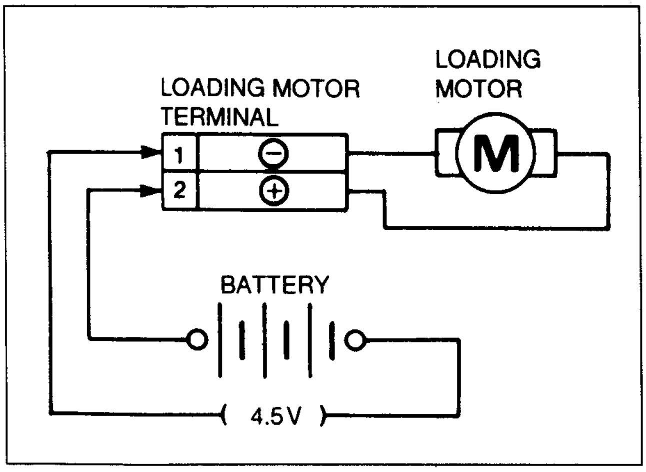


Fig. S10

If the cassette tape can not be removed by the above 2 methods, remove it by the following method.

1) Remove the Top Panel.
2) Remove the Front Panel Unit.
3) Lift up the Pinch Arm after removing spring.
4) Push the P5 Arm and remove the cassette tape from tape transportation (P1, P2, P3 and P5 Posts).
5) Turn the Capstan Rotor Unit to take up the tape.
6) Remove 1 screw from the Side Plate (R) Unit to disconnect the Rack Gear from the Carriage Connection Gear.
7) Take out the cassette tape from the Cassette Compartment.

1-1-4. FLAT CARD CABLE INSTLLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

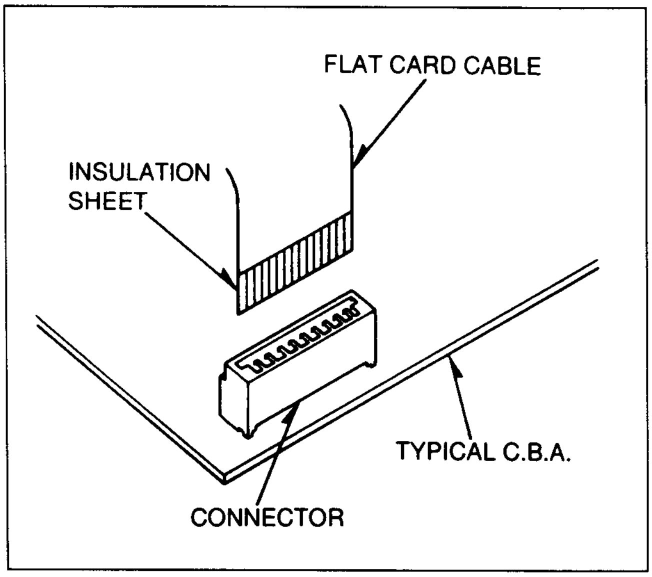


Fig. S11

1-2. SELF-TEST INDICATION DISPLAY

This VTR has a self-diagnosis and display function. If the VTR detects trouble during installation or during use, one of the following Fault Indication Codes will automatically appear in the VTR display. Fault Indication codes are displayed in the form of a single English letter followed by two numbers, as for example "H01".

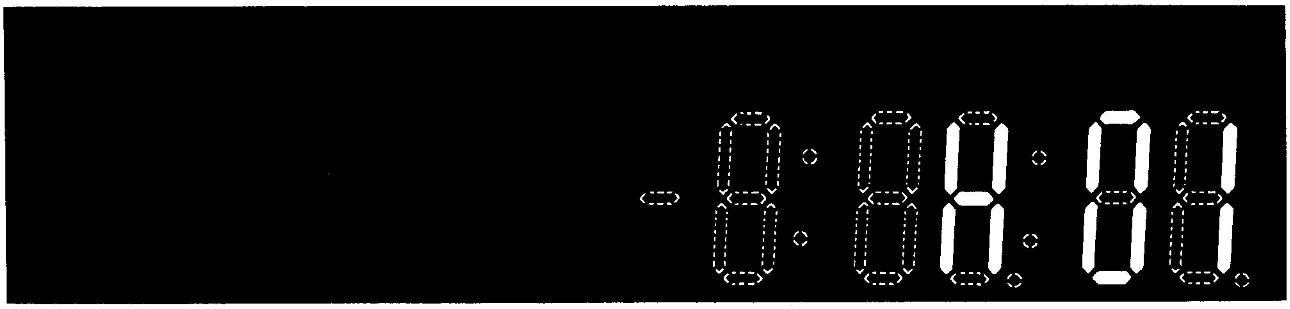
Note:1. The indication "U" is displayed on the FIP while power remains on.

2. Otherwise, the indication "H" or "F" is displayed on the FIP, and the power is automatically turned off. When the power is turned on again, the Fault Indication Code will disappear and the unit will return to normal display mode (either clock or counter).

3. This Fault Indication Code will be stored in the Timer microprocessor even with the AC plug disconnected.
The two-digit number portion of the stored Fault Indication Code can be redisplayed in the FIP's "second" display position (the last 2 digits on the light) by placing the unit is Service Mode Number 2 when turning on Service Information Display as for example "01" or "02" etc.
If a second error occurs, only the most recent error will be displayed and stored.

4. To erase the stored Fault Indication Code data, press the FF, REW and EJECT buttons simultaneously for 5 seconds.

⟨FIP⟩



INDICATION	CAUSE	REMEDY/CHECK
U 10	Dew formation.	Wait until the indication disappears.
H 01	After cylinder lock is detected, the cylinder does not start rotating again even after tape unloading.	Check the cylinder-motor drive circuit.
H 02	Cassette tape is not wound up during tape unloading except Eject mode.	Check the capstan-motor drive circuit.
F 03	Mechanism locks during mode transition except Eject mode.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment. 3. Check the Mode Switch.
F 04	Mechanism locks during tape unloading.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment.
F 05	Cassette tape is not wound up during tape unloading in Eject mode.	1. Check the capstan-motor drive circuit. 2. Check the Supply/Take-up reel pulse.
F 06	Mechanism locks after tape unloading in Eject mode.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment for Cassette Holder Unit.
F 09	No serial clock transmission between IC6001 and IC7501.	Check the serial clock circuit.

Fig. T1 Self-Test Indication Display

1-3. SERVICE INFORMATION DISPLAY

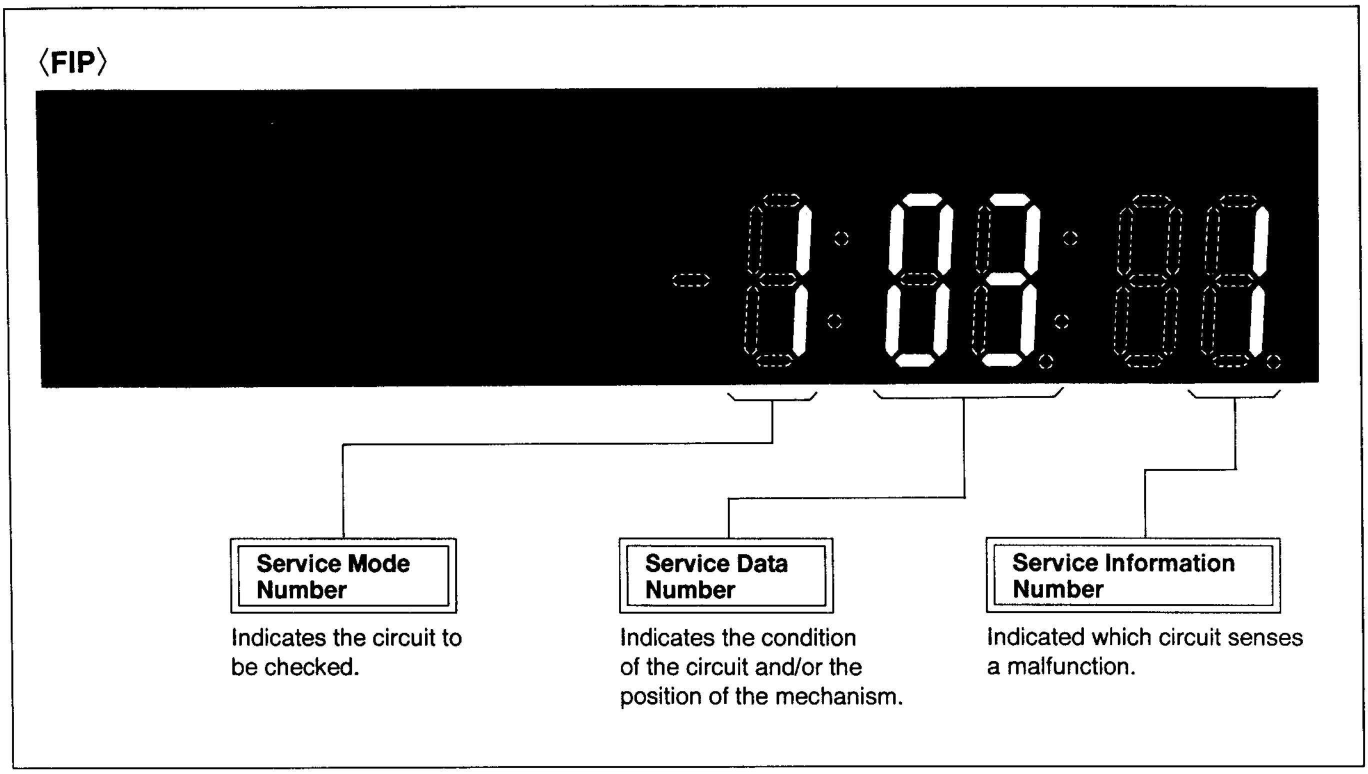

⟨FIP⟩
-1:02:01
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicates the condition of the circuit and/or the position of the mechanism.
Service Information Number
Indicated which circuit senses a malfunction.

Fig. D1 Service Information Display

1-3-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-3-2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.

(1) Press the "FF", "REW" and "EJECT" buttons simultaneously.
(2) Connecting a Jumper wire between TPSERV and TPTEST will display the service information indefinitely.

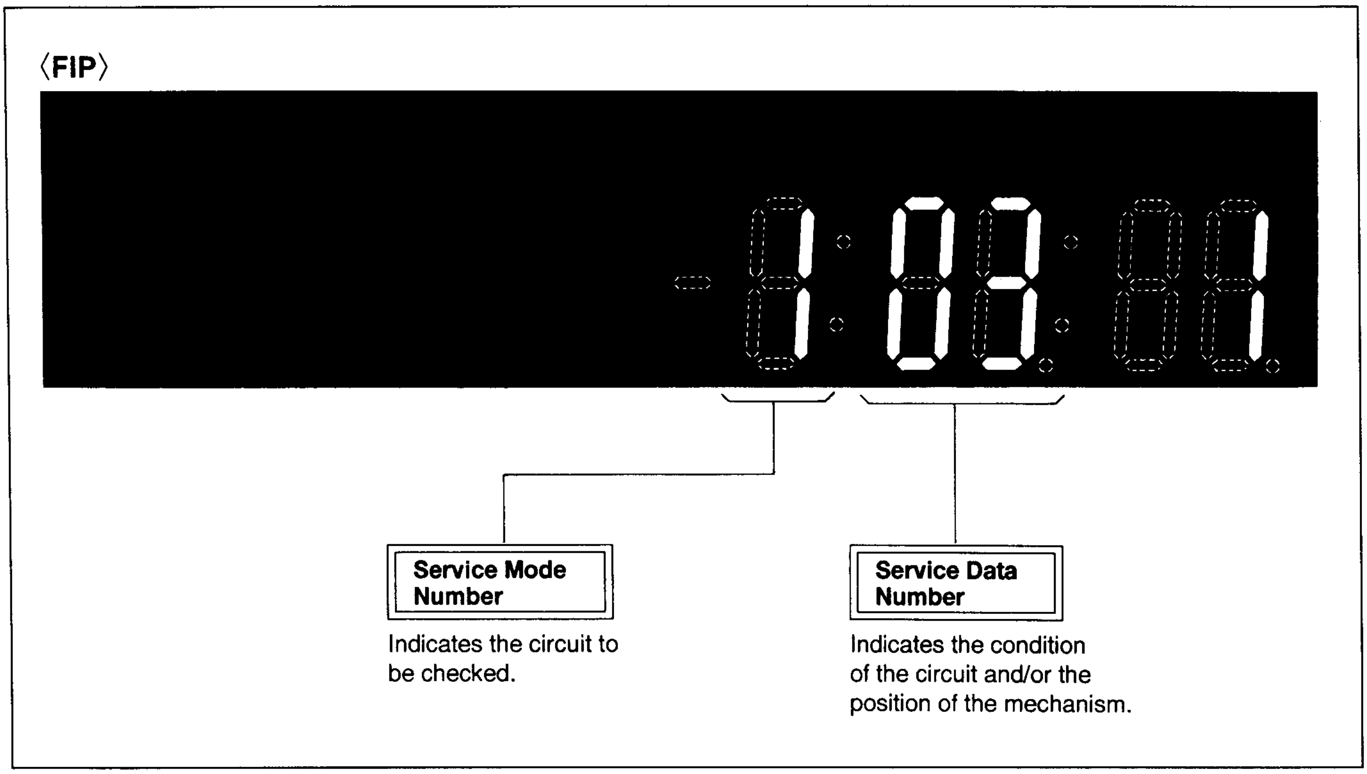
In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which of the 8 service modes that the unit is currently in.

MODE 1 : Checks tape protection circuit
MODE 2 : Checks tape transport mechanism
MODE 3 : Checks mode switching operation
MODE 4 : Checks control buttons
MODE 5 : Checks capstan motor
MODE 6 : Checks cylinder motor
MODE 7 : Checks loading/unloading operation
MODE 8 : Not used.
(The MODE 8 is displayed only when connecting a jumper wire between TPSERV and TPTEST.)

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is supplied. (except service mode number 2, 7 and 8)

1-3-3. Use of Service Modes



Indicates the circuit to be checked.

Indicates the condition of the circuit and/or the position of the mechanism.

Fig. D2 Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.

(2) To change Service Modes press the "FF", "REW" and "EJECT" buttons simultaneously.

(3) Mode 1 : Checks that the Sensor LED, Supply & Take-up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take-up Sensors.

1

When the light is blocked to both sensors, "00" should be indicated on the service data number.

When the light is blocked to the supply sensor, "01" should be indicated.

(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.

2

Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(5) Mode 3 : Checks that mode switch circuit operations have been completed.

3

Service Data Number should indicate "00" after each mechanism operation is completed.

(6) Mode 4 : Checks the operation circuit.

4

Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.

(7) Mode 5 : Checks the capstan motor circuit.

5

Indicates if the IC6001 has received the command to rotate the capstan motor.

(8) Mode 6 : Checks the cylinder motor circuit.

6

IC6001 has received the command to rotate the cylinder motor.

(9) Mode 7 : Checks the Loading/Unloading Operation.

7

The Loading Motor rotates for loading operation when the "PLAY" button is pressed.

The Loading Motor rotates for unloading operation when the "STOP" button is pressed. This mode can be displayed indefinitely until the OPERATE button is pressed.

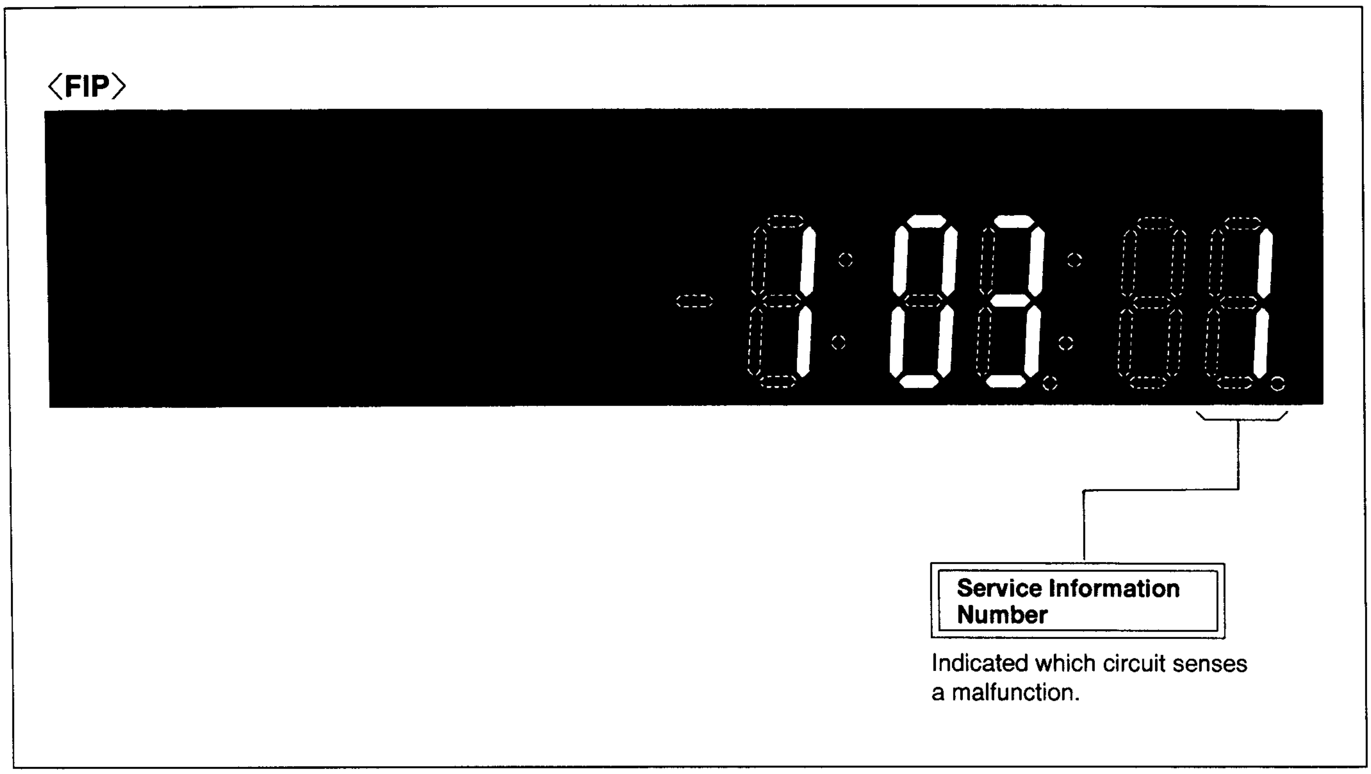
(10) Mode 8 : Not used.

8

<NOTE>

Refer to Fig. D5 for details of Service Data Numbers.

1-3-4. Service Information Number



Indicated which circuit senses a malfunction.

Fig. D3 Service Information Number on S.I.D.

Refer to Fig. D4 for details of Service Information Number.

Note:

The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is supplied.
If a second error occurs, only the most recent error will be displayed.
(except service mode number 2, 7 and 8)

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Faulty capstan rotation
6	Stop during Cassette-In/Eject operation

Fig. D4 Detail Service Information Numbers

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	——	00	No light detected at either sensor.	Tape not required.
		01	Tape Beginning. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2	——	00	EJECT	Tape Required. ∗1: STOP3; The Pinch Roller is on the capstan motor shaft. ∗2: STOP; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP *2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.	8 1 Left Digit Right Digit	8, 9, u, A, −, n, L, and no display indicate that the Capstan motor "PLAY" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.	8 7 Left Digit Right Digit	1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor "CUE, FF, Forward Slow" commands received by IC6001.	
	Right digit only, disregard left digit display.	8 Left Digit Right Digit	8, 9, u, A, −, n, L, and no display indicate that the Capstan motor "Reverse, Rew, Reverse Slow" commands received by IC6001.	
6	Left digit only, disregard Right digit display.	1 0 Left Digit Right Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

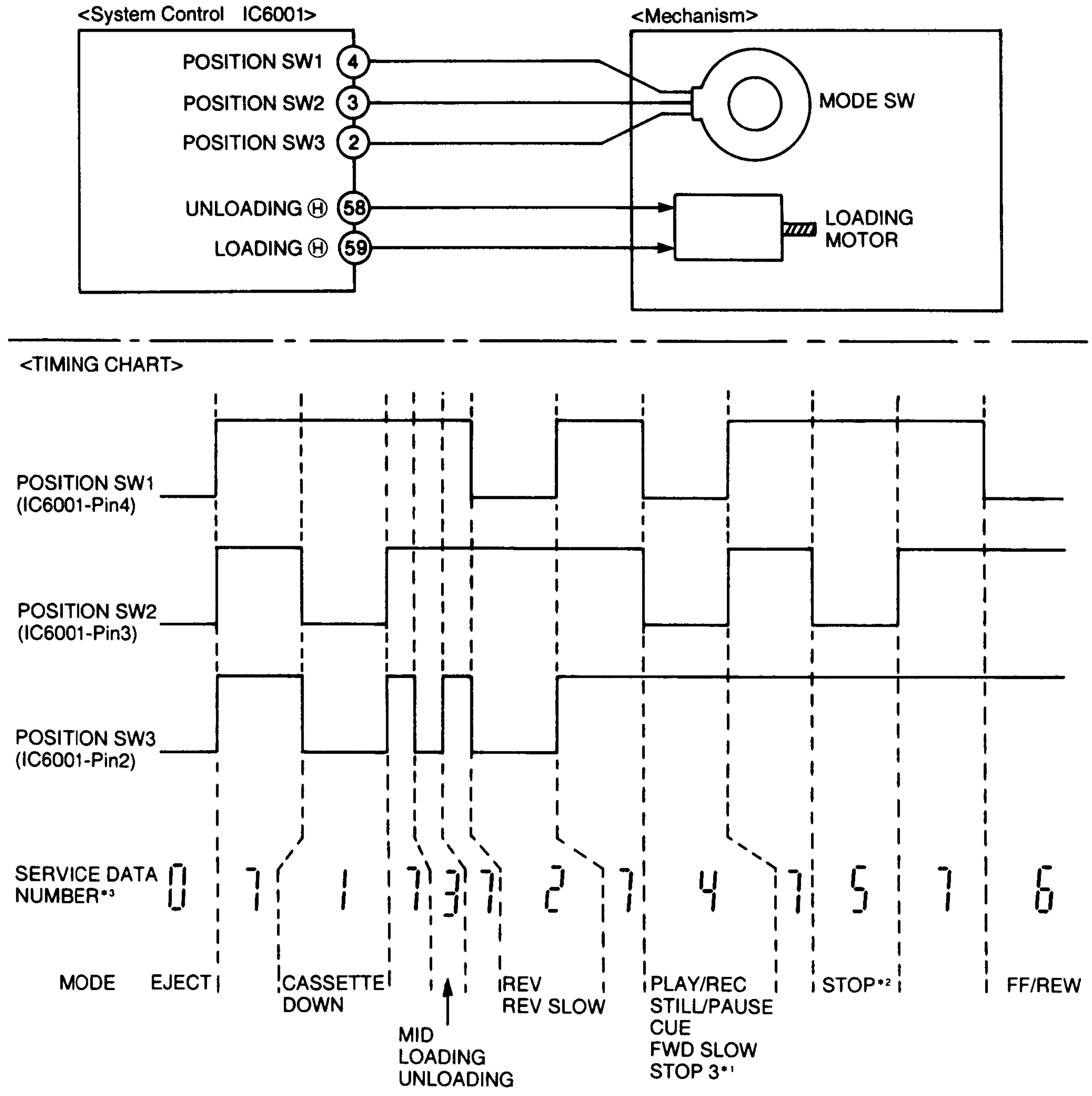
Fig. D5 Service Data Display and Indication

SERVICE DATA NUMBERS	MODE BUTTONS	SERVICE DATA NUMBERS	MODE BUTTONS
3n	OPERATE	06	PAUSE/STILL
01	EJECT	54	RESET
-0	INPUT SELECT	5	ZERO STOP
—	SP/LP	49,4U	INDEX
34,35	∧∨, + −	A1,A2	TRACKING (+, −)/V-LOCK
—	CANCEL	0	SLOW
—	MENU	57	OSD
A4	TIMER REC	00	STOP
08	REC	03,02	FF, REW
33	AUDIO OUT	55	DISPLAY
—	SHOW VIEW/G-CODE/VIDEO PLUS	0U	PLAY

Fig. D6 Service Data Display for Service mode 4

1-3-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position through the Mode SW.
Fig. D7 shows the timing for Service Mode Number 2.



<System Control IC6001>
POSITION SW1 4
POSITION SW2 3
POSITION SW3 2
UNLOADING Ⓗ 58
LOADING Ⓗ 59
<Mechanism>
MODE SW
LOADING MOTOR
<TIMING CHART>
POSITION SW1 (IC6001-Pin4)
POSITION SW2 (IC6001-Pin3)
POSITION SW3 (IC6001-Pin2)
SERVICE DATA NUMBER*3
0 7 1 7 3 7 2 7 4 7 5 7 6
MODE
EJECT
CASSETTE DOWN
MID LOADING UNLOADING
REV REV SLOW
PLAY/REC STILL/PAUSE CUE FWD SLOW STOP 3*1
STOP*2
FF/REW

＊1 : Stop 3; The Pinch Roller is on the capstan motor shaft.

＊2 : Stop; The Pinch Roller is off the capstan motor shaft.

＊3 : Service Data Number; This is for Service Mode Number 2.

Fig. D7 Timing Chart of Mode SW

1-3-6. Input/Output Chart for IC6001

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>1</td><td>I</td><td>SAFETY TAB</td><td>When inserting the cassette tape with safety tab, this port is low.
When there is no safety tab, this port is high to prevent recording.</td></tr>
<tr><td>2</td><td>I</td><td>POSITION SW 3</td><td rowspan="3"><table>
<tr><th>P. SW 3</th><th>P. SW 2</th><th>P. SW 1</th><th>Position (Mode) Name</th></tr>
<tr><td>O</td><td>O</td><td>O</td><td>EJECT</td></tr>
<tr><td>O</td><td>O</td><td>I</td><td>CASSETTE DOWN</td></tr>
<tr><td>O</td><td>I</td><td>O</td><td>REV, REV SLOW</td></tr>
<tr><td>O</td><td>I</td><td>I</td><td>MID (LOADING/UNLOADING)</td></tr>
<tr><td>I</td><td>O</td><td>O</td><td>PLAY/REC, STILL/PAUSE, CUE, FWD SLOW STOP3 *1</td></tr>
<tr><td>I</td><td>O</td><td>I</td><td>STOP</td></tr>
<tr><td>I</td><td>I</td><td>O</td><td>FF/REW</td></tr>
<tr><td>I</td><td>I</td><td>I</td><td>INTERMEDIATE</td></tr>
</table>
(*1) The Pinch Roller is on the capstan motor shaft.</td></tr>
<tr><td>3</td><td>I</td><td>POSITION SW 2</td></tr>
<tr><td>4</td><td>I</td><td>POSITION SW 1</td></tr>
<tr><td>5</td><td>I</td><td>SUPPLY REEL PULSE</td><td>Supply Reel Pulse Input
(For detecting tape remaining)</td></tr>
<tr><td>6</td><td>I</td><td>NORMAL/ SERVICE/TEST</td><td>Service Mode Setting
Normal Mode : High
Service Mode : Middle
Test Mode : Low</td></tr>
<tr><td>7</td><td>I</td><td>DEW</td><td>Not used (Low setting)</td></tr>
<tr><td>8</td><td>I</td><td>TEST</td><td>Not used (Low setting)</td></tr>
<tr><td>9</td><td>I</td><td>ENVELOPE SELECT</td><td>The playback envelope video signal level is detected at this input to select the video head in the special playback modes.</td></tr>
<tr><td>10</td><td>O</td><td>ROTARY SW</td><td>This signal is supplied to the chrominance circuit to perform the phase rotation.</td></tr>
<tr><td>12</td><td>O</td><td>HEAD AMP SWITCH</td><td>This signal is supplied to the head amp circuit to switch the video head, SP or LP.</td></tr>
<tr><td>14</td><td>O</td><td>ARTIFICIAL V/H/N</td><td>Artificial Vertical Sync Signal is supplied to video circuit to stabilize the picture in the special playback modes.</td></tr>
<tr><td>17</td><td>I</td><td>TAKE-UP PHOTO</td><td>Take-up Side Photo Sensor Input
(For detecting tape beginning)</td></tr>
<tr><td>18</td><td>I</td><td>SUPPLY PHOTO</td><td>Supply Side Photo Sensor Input (For detecting tape end.)</td></tr>
<tr><td>19</td><td>I</td><td>TAKE-UP REEL</td><td>Take-up Reel Pulse Input
(For detecting tape remaining and reel (Cap.) lock.</td></tr>
<tr><td>20</td><td>O</td><td>SP/LP</td><td>Not used</td></tr>
<tr><td>45</td><td>O</td><td>AUDIO H. SW</td><td>This signal is supplied to the head amp circuit to switch the audio head, R or L.</td></tr>
<tr><td>46</td><td>O</td><td>SERIAL CLOCK SELECT</td><td>Refer to Fig. MP4 and MP5.</td></tr>
<tr><td>47</td><td>I</td><td>SYSTEM SEL</td><td>Refer to Fig. MP5.</td></tr>
<tr><td>48</td><td>I</td><td>L CH/R CH</td><td>Refer to Fig. MP4.</td></tr>
<tr><td>49</td><td>I</td><td>BIL/STEREO</td><td>Refer to Fig. MP4.</td></tr>
<tr><td>50</td><td>O</td><td>MESECAM (H)</td><td>Refer to Fig. MP6.</td></tr>
<tr><td>51</td><td>I</td><td>NTSC/PAL</td><td>Refer to Fig. MP4.</td></tr>
</table>

Fig. MP1

Pin Number	Input/Output	Port Name	Function
52	I	TV/VTR	Refer to Fig. MP4.
53	I	MONO 1/2	Refer to Fig. MP4.
54	O	SENSOR LED ON (L)	When turning on the Sensor LED, this port is low. 1) STOP Mode: No lit. 2) FF, REW, CUE, REV Modes: DC is lit. 3) EJECT Mode: Pulse blinking. (Cycle: 320 [msec])
55	O	VOLTAGE CHANGE (H)	When increasing the drive torque of loading motor to perform the FF/REW mode, this port is low.
56	O	DBS (L)	Refer to Fig. MP6.
57	O	SECAM (H)	Refer to Fig. MP6.
58	O	UNLOADING (H)	When unloading, this port is high.
59	O	LOADING (H)	When loading, this port is high.
60	O	HEAD SW	This signal is supplied to the head amp circuit to switch the video head, R or L.
61	O	CURRENT LIMIT	Capstan torque limitter output
62	O	CAP R/S/F	Capstan Rotation Direction Output Reverse : High Stop : Middle Foward : Low
63	O	SERIAL CLOCK	Serial Clock Output
64	I/O	SERIAL DATA	Serial Data In/Out
65	O	SP (H)	Tape Speed Output SP : High LP : Low
66	O	DELAYED REC (H)	When the video goes to the recording mode after a delay from the video recording command, this port is high.
67	O	DELAYED AUDIO REC (H)	When the audio goes to the recording mode after a delay from the audio recording command, this port is high.
68	O	PAL I (H)	When selecting the PAL-I system during tuner preset.
69	O	REC (H)	When the video goes to the recording mode, this port is high.
70	O	NTSC (L)	Not used
71	O	AUDIO MUTE (H)	When the audio goes to the mute mode, this is high.
72	O	CAPSTAN REVERSE (H)	Not used
73	O	VTR (L)	VTR/TV switch output
74	O	A. DUB (H)	Not used
75	O	CURRENT EMPHASIS (H)	When the servo goes to the edit mode, this is high.
76	O	FF/REW (L)	When the servo goes to the FF/REW mode, this is low.
77	O	FM MUTE (H)	When the FM audio goes to the mute mode, this is high.

Fig. MP2

Pin Number	Input/Output	Port Name	Function
78	O	VIDEO EE (L)	When the video goes to the EE mode, this is low.
79	O	TRICK (L)	When the video goes to the special playback (CUE, REV, SLOW, STILL) mode, this is low.
80	O	POWER OFF (H)	Power ON/OFF Control is low when the power switch is turned on.
82	I	OSC 1	Oscillator input
83	O	OSC 2	Oscillator output
84	I	RESET (L)	When reseting the IC6001, this port is low.

Fig. MP3

		PIN 46 OUTPUT (SCAN OUT)	
		L	H
PIN 48 INPUT (RCH/LCH)	L	R CH	L CH
	H	—	—
PIN 49 INPUT (STER/BIL)	L	STEREO	BILINGUAL
	H	—	—
PIN 51 INPUT (SYSTEM/ DECK TYPE)	L	PAL SYSTEM	TV/VTR COMBINATION TYPE
	H	NTSC SYSTEM	TABLE TYPE
PIN 52 INPUT (TV/VTR)	L	COMPULSION TV	
	H	AUTO	
PIN 53 INPUT (MONO1/2)	L	MONO 2	MONO 1
	H	—	—

Fig. MP4

	PIN 46 OUTPUT	MODE
	L _┌‾ H	
PIN 47 (SYSTEM SEL)	L ___ L	MODE 1
	L _┌‾ H	MODE 2
	H ‾┐_ L	MODE 3
	H ‾‾‾ H	MODE 4

Fig. MP5

	MODE 1, 4	MODE 2	MODE 3
PIN 50 (SYSTEM 1)	MESECAM Ⓗ OUT	MESECAM Ⓗ OUT	NTSC Ⓛ OUT
PIN 57 (SYSTEM 2)	NTSC-M Ⓗ OUT	SECAM Ⓗ OUT	—
PIN 56 (SYSTEM 3)	DBS Ⓛ OUT	DBS Ⓛ OUT	—
PIN 68 (SYSTEM 4)	PAL-I Ⓗ OUT	SECAM Ⓛ OUT	—

Fig. MP6

1-3-7. CVC (CRISTAL VIEW CONTROL) FUNCTION

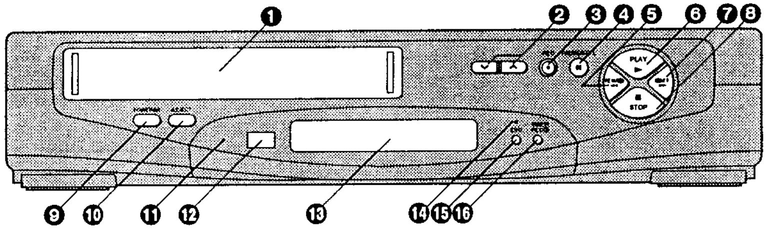
The playback are adjusted to achieve optimum picture quality from tapes with varying charactristics.

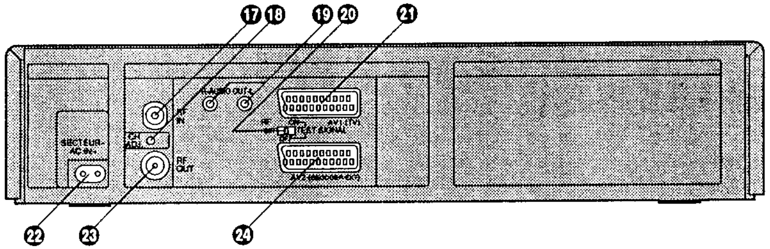
(1) Detail explanation
<Playback mode>
The picture quality is varying from the different tapes as follows:

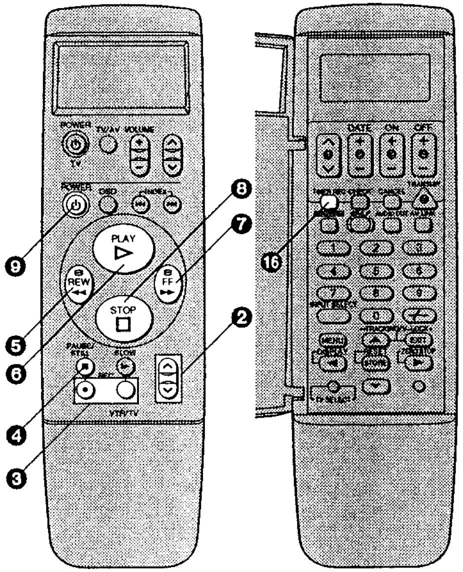
1) If the output level is low, from worn or rental cassette tapes, a soft picture is obtained by the RF equlizer and picture control on the Lumi./Chro. Pack C.B.A.
2) If the output level is medium, from normal tapes, a sharp picture is obtained from the emphasis and picture control on the Lumi./Chro. Pack C.B.A.
3) If the output level is high, from HG/S tapes, a sharp and detailed picture is obtained from the RF equlizer, emphasis picture control and noise canceller on the Lumi./Chro. Pack C.B.A.

Controls and Connection Sockets

This gives a detailed explanation of the function of each button, switch and connection socket.







① **Cassette Compartment**
Insert a video cassette here.

② **∨ ∧**
To select the required programme position (TV station).

③ **REC**
To start a recording.
- Press both buttons simultaneously for the remote controller.

④ **PAUSE/STILL**
During playback: Still picture.
During recording: To interrupt recording.

⑤ **REW (REWIND)**

In the stop mode:	To rewind the tape.
In the playback mode:	To search backward.
In the rewind mode:	To obtain high speed picture.

"◁◁" is lit.

⑥ **PLAY**
To start playback. "▷" is lit.
For the repeat playback function.

⑦ **FF (FAST FORWARD)**

In the stop mode:	To fast forward the tape.
In the playback mode:	To search forward.
In the fast forward mode:	To obtain high speed picture.

"▷▷" is lit.

⑧ **STOP**
To stop any playback or recording.

⑨ **POWER ⏻/I**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still connected to the mains.

⑩ **EJECT**
To eject a video cassette.

⑪ **Standby Indicator**
This indicator is lit when the VTR is turned off or the VTR is in the timer recording standby mode.

⑫ **Infra-red Remote Control Receiver Window**

⑬ **Display**

⑭ **CVC Indicator**
When **CVC** is set to on, this indicator is lit.

⑮ **CVC (Crystal View Control)**
ON: Using the CVC function, playback is performed in the state which achieves optimum picture quality in light of characteristics of a tape.
- The CVC indicator is lit.
- This control should normally be left in the ON position.

OFF: Turn off the CVC function.
- The CVC indicator is not lit.
- With certain tapes, the OFF position may result in a better picture.

⑯ **TIMER REC**
To turn the timer recording function on and off.
⏲ is lit or not lit.
Once operating timer recording function, the normal VTR operation is not possible unless this button is set to off.

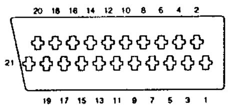
⑰ **RF IN**
To connect to the external aerial.

⑱ **CH ADJ.**
To adjust the RF transmitting channel 30–42.

⑲ **AUDIO OUT**
To connect the sound to a stereo audio system.

⑳ **RF OFF/TEST SIGNAL**
RF OFF: Set to this position when the VTR is connected to the TV via the 21-pin scart cable.
TEST SIGNAL OFF:
Set to this position when the VTR is connected to the TV via the RF coaxial cable only.
TEST SIGNAL ON:
Set to this position when tuning the TV into the VTR.
The test signal is transmitted on channel 36 initially.

㉑ **AV1 (TV)**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart
Peritel
Euro Connector
Euro AV



1	AUDIO OUTPUT CH2 (R)
2	AUDIO INPUT CH2 (R)
3	AUDIO OUTPUT CH1 (L)
4	AUDIO GROUND
5	BLUE GROUND
6	AUDIO INPUT CH1 (L)
7	BLUE
8	SWITCHING VOLTAGE
9	GREEN GROUND
10	No connection
11	GREEN
12	No connection
13	RED GROUND
14	BLANKING GROUND
15	RED
16	BLANKING
17	VIDEO OUTPUT GROUND
18	VIDEO INPUT GROUND
19	VIDEO OUTPUT
20	VIDEO INPUT
21	GROUND

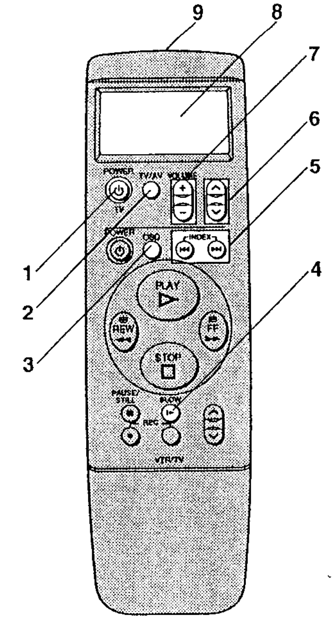
Caution: RGB reservation for only E/E operation when connecting the Pay TV decoder

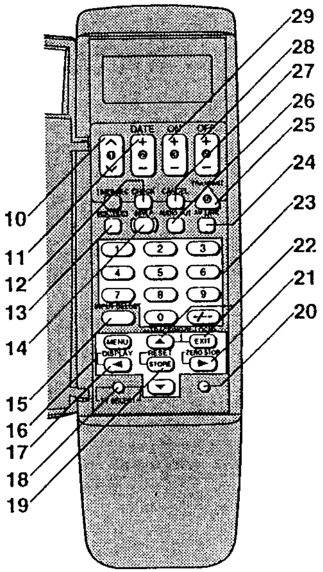
㉒ **AC IN~**
To connect to the main power supply.

㉓ **RF OUT**
To connect to the aerial terminal on a TV set.

㉔ **AV2 (DECODER/EXT)**
To connect to a decoder or another VTR.
- Only used as the input socket.

Infra-red Remote Controller





1 **POWER (TV)**
To switch the TV from on to standby mode or vice versa. In standby mode, the TV is still connected to the mains.
- With some TV models, it may only be possible to switch the TV to standby mode using this button. In this case, use **TV/AV** or ∨ ∧ **(TV)** to switch the TV on.

2 **TV/AV**
To select the TV input.

3 **OSD**
For the On Screen Display Function.

4 **SLOW**
For the slow motion playback function. "▯▷" is lit.

5 **INDEX**
For the index search function.

6 **∨ ∧ (TV)**
To select the required programme position (TV station) of the TV.

7 **VOLUME**
To adjust the volume of the TV.

8 **Display**

9 **Infra-red Transmitter**
The programming data are transmitted from here to the VTR.

10 **∨ ∧**
To programme a timer recording.

11 **DATE**
To programme a timer recording.

12 **CHECK**
To check timer programmes.

13 **SHOWVIEW**
For the ShowView programming.

14 **SP/LP**
To select the tape speed desired for recording.
SP gives the best picture quality.
LP gives the longest recording time.

15 **INPUT SELECT**
To select the A1 or A2 external recording source.

16 **OSD Operation Buttons**
MENU: To make On Screen Display **Main Menu** appear on the TV screen.
▲ ▼ ◄ ►/STORE:
To make selections from On Screen Display.
EXIT: To make On Screen Display disappear on the TV screen.

17 **DISPLAY**
To change the indication on the VTR Display or On Screen Display.

→Clock→Counter→Remaining Tape Time→

18 **TV SELECT**
To set the remote controller for operation of the TV.

19 **RESET**
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

20 No function.

21 **ZERO STOP**
For the zero stop function.

22 **TRACKING/V-LOCK**
For manual tracking adjustment
The + and – buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. After making a manual adjustment, press both buttons together to return to automatic digital tracking control.

For slow tracking adjustment
When noise bars appear during Still or Slow playback, switch over to slow playback and adjust with the + or – Button to reduce the noise bars.

For vertical locking adjustment
Use the + and – buttons to minimize any vertical jitter during still-picture playback.

23 **Number Buttons**
- To select the programme positions (1–99).

9: 9
19: -/--→1→9

- To programme a ShowView number.

24 **AV LINK**
To select the VTR mode or TV mode for AV LINK.

25 **TRANSMIT**
To transmit the data that has been set on the remote controller to the VTR.

26 **AUDIO OUT**
To select the desired sound mode.
At the every push of this button, the audio output mode changes as follows.

→Stereo→Left→Right→Normal audio track→

The Left (L) and Right (R) Indicators on screen display shown which sound mode is selected in the following way.

Stereo:	Both the L and R Indicators appear.
Left:	The L Indicator appears.
Right:	The R Indicator appears.
Normal:	Both the L and R Indicators don't appear.

27 **CANCEL**
To cancel the settings made for a timer recording.

28 **OFF**
To programme a timer recording.

29 **ON**
To programme a timer recording.

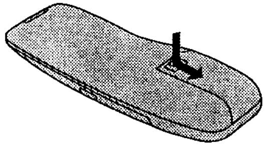
Power Source for the Remote Controller

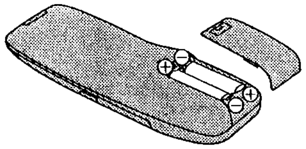
The remote controller is powered by 2 "AA", "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

Precautions for Battery Replacement

- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



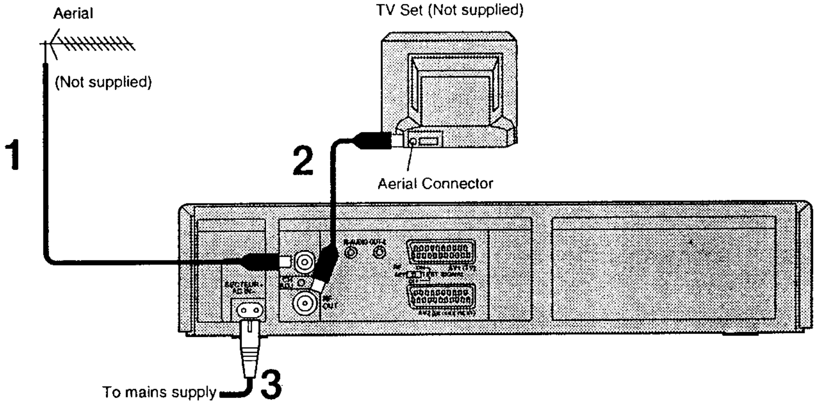


Connections

This tells you how to connect with an aerial, TV, etc.

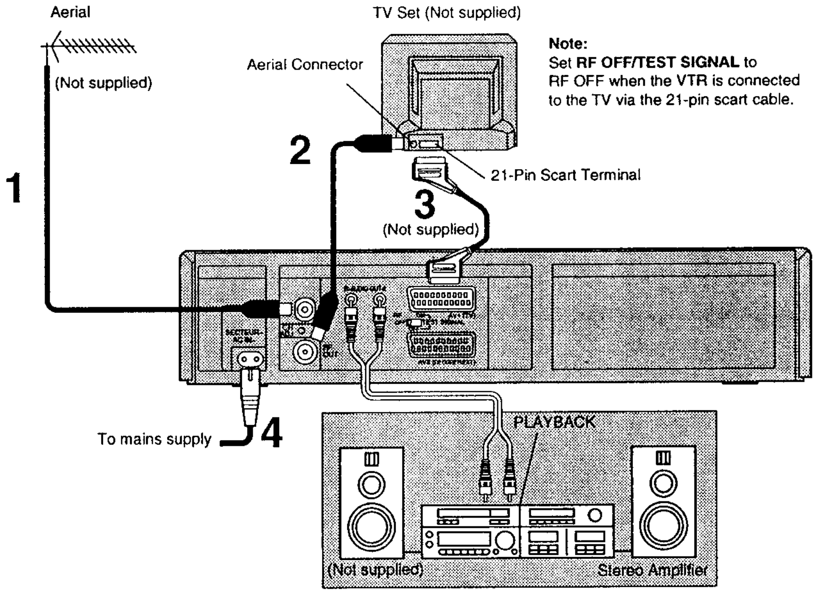
Basic Connections

The following connections are required to record and play back the VTR through TV set:


Aerial
TV Set (Not supplied)
(Not supplied)
1
2
Aerial Connector
To mains supply
3

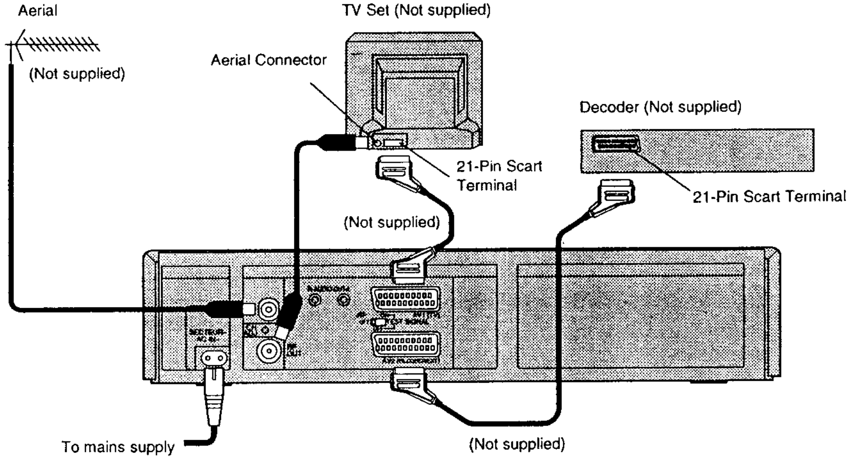
Connection to a TV Set with 21-Pin Scart Terminal

Note:
Set **RF OFF/TEST SIGNAL** to RF OFF when the VTR is connected to the TV via the 21-pin scart cable.


Aerial
TV Set (Not supplied)
(Not supplied)
Aerial Connector
1
2
21-Pin Scart Terminal
3
(Not supplied)
To mains supply
4
PLAYBACK
(Not supplied)
Stereo Amplifier

●**Connection to a Stereo Amplifier**

Connection to a Decoder


Aerial
(Not supplied)
TV Set (Not supplied)
Aerial Connector
Decoder (Not supplied)
21-Pin Scart Terminal
21-Pin Scart Terminal
(Not supplied)
To mains supply
(Not supplied)

AV LINK

With this button the connected colour TV set can be switched from TV mode to VTR mode (vice versa) when it is connected by means of 21-pin scart cable.

This makes a variety of functions possible such as simultaneous recording and viewing when a Pay TV decoder or a satellite receiver has been connected.

VTR mode (VTR indicator lights):
To enjoy sound and pictures from the VTR.

- When **MENU** is pressed and the OSD (On Screen Display) screen is displayed, the unit also automatically switches to VTR mode.
  However, if the unit is originally in TV mode, the VTR indicator is not displayed.
- The unit also automatically switched to VTR mode when playback is started. However, the unit cannot be returned to TV mode during playback.

TV mode (VTR indicator goes off):
To watch another programme on the TV while recording on the VTR.

- Select the programme to be watched using the TV set's tuner.
- The sound and pictures of a different channel are received by the VTR.

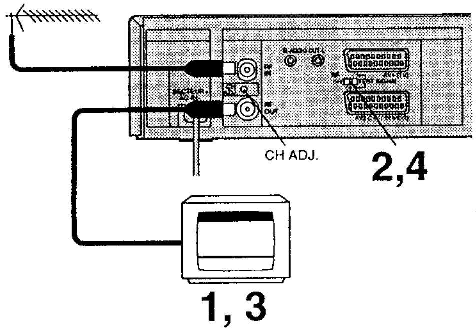
VTR		TV set
Power On	VTR mode	AV input selected
	TV mode	Input from TV set's tuner*
Power Off	—	Input from TV set's tuner

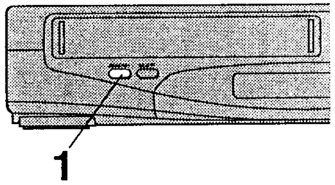
*When the VTR is set to the TV mode and the Pay TV channel is selected, the signals will still be scrambled even when Pay TV is selected by the TV set's tuner. At a time like this, either set the VTR to the VTR mode or switch the TV set's input signals to AV input.

Note:

- If the TV set is provided with an RGB-compatible connector, connect the 21-pin AV cable from the VTR to this connector. Use full-pin 21-pin AV cables for connecting the TV set and VTR and for connecting the VTR and decoder.
- Set **RF OFF/TEST SIGNAL** to RF OFF when the VTR is connected to the TV via the 21-pin scart cable.

Tuning the TV to your VTR





The VTR supplies a signal to the TV set via the RF coaxial cable on channel 36.
It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

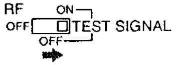
If you have connected the VTR to the TV through the 21-pin scart terminal, then you do not need to follow the procedure mentioned below.

Operations

1 POWER/I

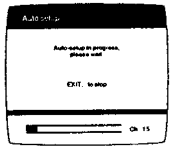
Turn on the TV and VTR.

2

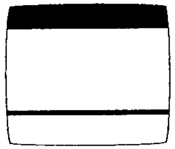

RF
ON
OFF
TEST SIGNAL
OFF

To generate a test pattern, set **RF OFF/ TEST SIGNAL** to TEST SIGNAL ON.

3 **On Screen Display**


Auto setup
Auto-setup in progress, please wait
EXIT: to stop
Ch 15

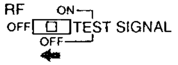
(During Auto Setup)



(After Auto Setup)

Set the TV to an unused position which you wish to use for your video playback.

4


RF
ON
OFF
TEST SIGNAL
OFF

Set **RF OFF/TEST SIGNAL** to TEST SIGNAL OFF.

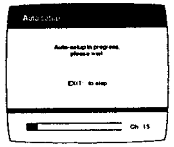
Note:
The test signal is transmitted on video channel 36. If you are encountering interference from a TV broadcast on this video channel, you may readjust to another free channel (30–42) by using the **CH ADJ.** screw which is located on the rear of the VTR.
Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item 2 to 4 above.

Auto Setup

Auto Setup

When the VTR is turned on after connecting the aerial lead and the mains lead, Auto setup (Auto tuning and Auto clock setting) starts.

On Screen Display


Auto setup
Auto-setup in progress, please wait
EXIT: to stop
Ch 15

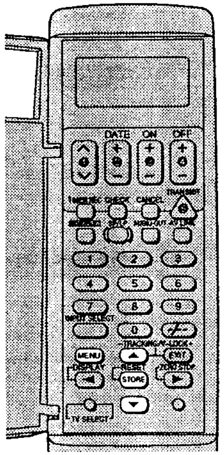
- The Auto setup is searching for TV station from VHF minimum to UHF maximum and memorizing the data for every programme position. The other programme positions are skipped.
- The Auto setup takes five or more minutes to complete the search for TV station and the clock setting.
- If the clock setting screen appears after auto setup has been completed, refer to page 25 and proceed with the setting.

Country-Selection

After the Auto setup is finished, select your country to set TV station list, guide number for ShowView and language.

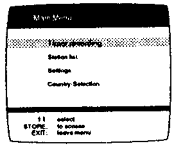
Preparations

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR.


DATE
ON
OFF
CHECK
CANCEL
MENU
EXIT
STORE
TV SELECT

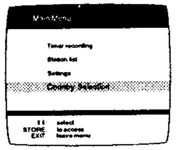
1 Press **MENU**.

MENU


Main Menu
Timer recording
Station list
Settings
Country-Selection
↕ select
STORE: to access
EXIT: leave menu

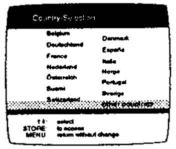
2 Select **Country-Selection**.

▲ ▼ → STORE


Main Menu
Timer recording
Station list
Settings
Country-Selection
↕ select
STORE: to access
EXIT: leave menu

3 Select the desired country.
- Refer to page 28 as well.

▲ ▼


Country-Selection
Belgium
Deutschland
France
Nederland
Österreich
Suomi
Switzerland
Danmark
España
Italia
Norge
Portugal
Sverige
other countries
↕ select
STORE: to access
MENU: return without change

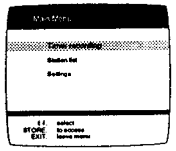
4 Press **STORE**, and then press **MENU**.

STORE → MENU

Viewing the TV station list

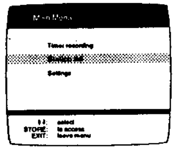
1 Press **MENU**.

MENU


Main Menu
Timer recording
Station list
Settings
↕ select
STORE: to access
EXIT: leave menu

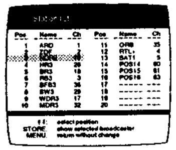
2 Select **Station list**.

▲ ▼ → STORE


Main Menu
Timer recording
Station list
Settings
↕ select
STORE: to access
EXIT: leave menu

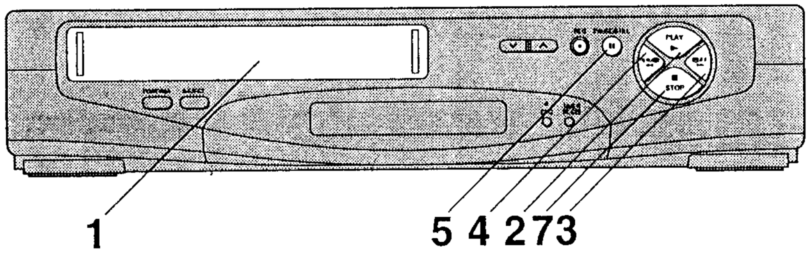
3 Select the desired TV station, if you want to view the broadcast.

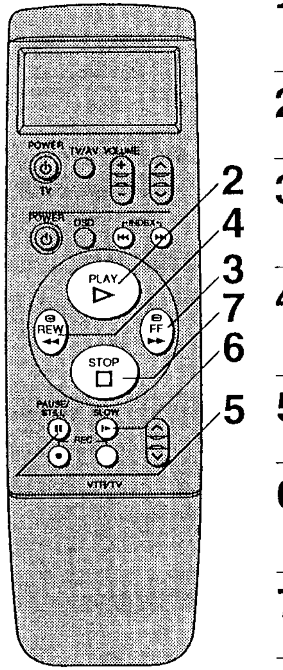
▲ ▼ → STORE

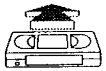

Station list
Pos
Name
Ch
↕ select position
STORE: show selected broadcaster
MENU: return without change

Note:
If VTR is not correctly set by Auto setup, see **Various Settings** on pages 22–25.

Playback





Operations	Display Symbols	
1 	oo	Insert a recorded cassette tape.
2 PLAY ▷	▷	Start viewing the picture.
3 FF ▶▶	▷▷	Search forward by tapping **FF**. •To change back to normal playback, press **PLAY**.
4 REW ◀◀	◁◁	Search backward by tapping **REW**. •To change back to normal playback, press **PLAY**.
5 PAUSE/STILL ⏸	‖	View a still picture. •To continue the normal playback, press **PLAY** or **PAUSE/STILL**.
6 SLOW	‖▷	View the slow motion picture. •To continue the normal playback, press **PLAY**.
7 STOP □		Stop viewing the picture.

Other Playback Functions

To obtain High Speed Picture During Fast Forward or Rewind

Keep **FF** pressed during fast forward.
Keep **REW** pressed during rewind.

REW ◀◀ FF ▶▶

To playback the Recorded Part Repeatedly

Keep **PLAY** pressed for more than 5 seconds.

PLAY ▷

- Press **STOP** to release from Repeat Playback mode.

To return to a Specified Scene

1 Press **RESET** to set the counter to 0:00.00.

RESET STORE

2 After playback, press **ZERO STOP** in the stop mode.
- The tape will be rewound or fast forwarded to 0:00.00 approximately.

ZERO STOP ▶

To find the Beginning of Each Recording

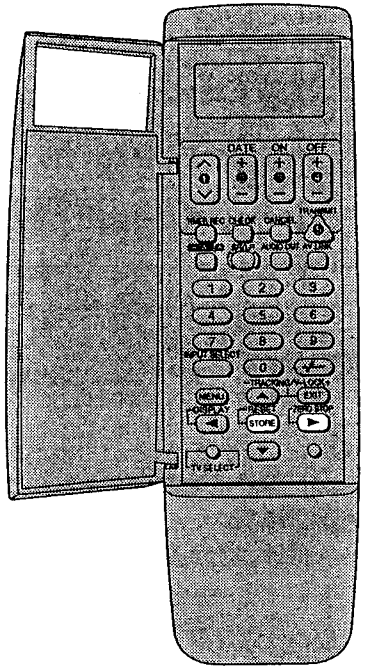
For example:
Searching for the 2nd recorded segment in the forward direction.

Press **INDEX ▶▶I** twice.

INDEX I◀◀ ▶▶I 02

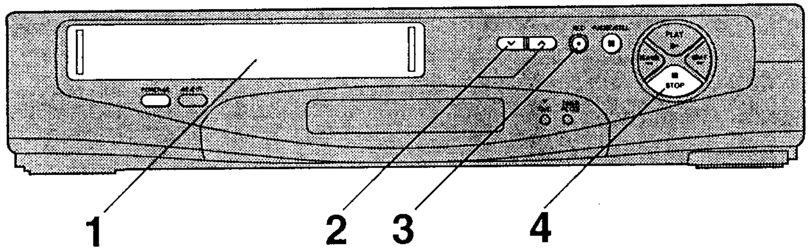
- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX I◀◀**.
- Up to 20 index signals can be searched for in both directions.
- When the opposite **INDEX** button is pressed, the number shall be decreased till 1.
- The figure on the display is decremented by 1 each time an index signal is located.

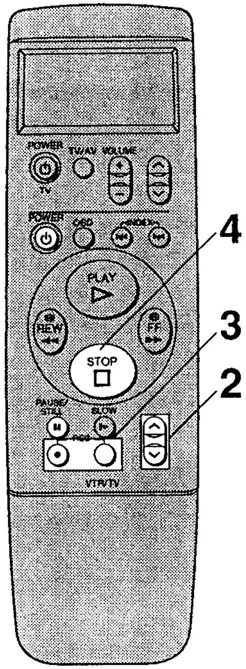
Recording Index Signals
Index signals are recorded in following cases.
- When a recording is started by pressing **REC**.
- When **REC** is pressed during recording.
- When timer recording is activated.

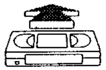
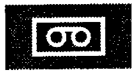
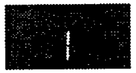
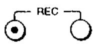
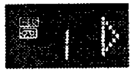
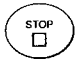


Notes:
- Audio reproduction of linear (conventionally recorded) tapes will be monaural when played back on the FM Hi-Fi video recorders.
- Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.
- The INDEX search function can only work correctly, if the index signals are spaced at least 3 minutes apart in the SP mode and 5 minutes apart in the LP mode.
- In LP mode only:
  1. During any playback mode other than normal playback, the picture may have some noise bars, the colour may be unstable, or a black and white picture may appear.
  2. When playing back a tape which was recorded on another VTR, it may be necessary to adjust the Tracking Control. In some cases the picture quality may still be inferior. This is due to limitation of format.

Manual Recording

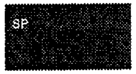




	Operations	Display Symbols	
1			Insert a cassette tape. •If it has already been inserted, press **POWER** to turn the VTR on.
2			Select TV station.
3			Start recording.
4			Stop recording.

To select the Desired Tape Speed

Press **SP/LP** before recording.



To interrupt Recording

Press **PAUSE/STILL** during recording.
Press again to continue recording.

PAUSE/
STILL

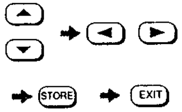
To record One TV Programme while Viewing Another Programme

1 Refer to the manual recording operations steps **1** to **3**.

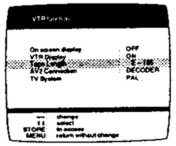
2 Select the TV programme on your TV set you wish to view at the present time.

To display the Approximate Remaining Tape Time

1 Select **Tape Length** from On Screen Display and select the corresponding cassette tape length. See page 27.



On Screen Display

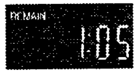


On screen display : OFF
VTR Display : ON
Tape Length : E-195
AV2 Connection : DECODER
TV System : PAL

change
select
STORE: to access
MENU: return without change

◀ E-180: For E30, -60, -90, -120 and -180 tapes.
E-195: For E195 tape.
E-240: For E240 tape.
E-260 ▶: For E260 and -300 tapes.

2 Press **DISPLAY**.



→Clock→Counter→**Remaining Tape Time**—┐

- The remaining tape time may not be displayed correctly depending on the tape used.

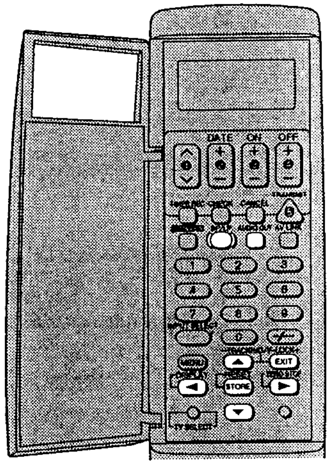
Recording of Stereo and Bilingual Programmes

1 Recording are automatically made in the stereo or bilingual mode. This prevents errors in the selection of the dubbed or the original language.

2 During playback press **AUDIO OUT** to select the desired sound mode. See page 7.

Notes:

- When a video cassette with a broken off tab is inserted, the "▣" indication will flash to indicate that recording is not possible.
- The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.



The NICAM Broadcast System (NV-HD600EC only)

NV-HD600EC is equipped with the NICAM sound system also.
NICAM is a 2 Channel sound broadcast system to provide either a high quality stereo sound track or 2 independent MONO sound tracks, M1 and M2.
NICAM programmes are always accompanied by standard sound broadcasts and you can select the desired sound with **AUDIO OUT** during playback.

- The NICAM digital stereo sound can only be recorded on the Hi-Fi audio track.
- To record the regular sound (ordinary normal sound) on the FM audio tracks when a Stereo, Bilingual or NICAM programme is received, select **Mono ON** during manual tuning procedure. See page 22.

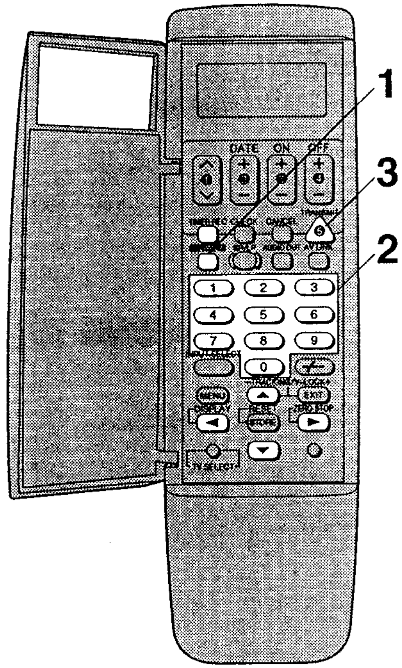
Important Note for the NICAM System

When NV-HD600EC is switched on, the tuner will automatically switch to a NICAM broadcast, if NICAM is being transmitted. During test transmissions, it is possible that the sound received doesn't correspond to the picture being viewed. In order to receive a synchronized sound and picture, select monaural sound with **AUDIO OUT** or **Mono ON** setting. This will only apply until NICAM transmissions are fully operational.
At this time the NICAM signal is transmitted on stereo channels only, since the M1 and M2 formats are not yet available. Even if the sound track is in MONO, the stereo indicator will appear.

Timer Recording

ShowView Programming

Programming is now easier than ever: simply enter the ShowView number provided in the programme schedule column carried by newspapers and magazines. ShowView numbers are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these numbers are entered and **TRANSMIT** is pressed, the numbers are converted into the actual programming and sent to the VTR.



Preparations

- Insert a cassette tape with an intact erasure prevention tab.
- Confirm that the TV is on and the VTR viewing channel is selected.

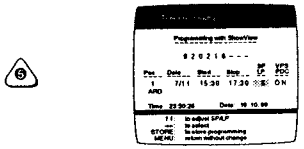
Operations **Display Symbols**

1 Press **SHOWVIEW**.

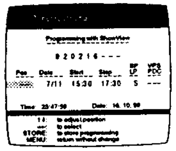
2 Enter a ShowView number.
Example: 920216

3 Press **TRANSMIT**.

On Screen Display



- The VTR will be in the timer recording standby mode after about 1 minute.
- If the "– –" appears in the programme position:



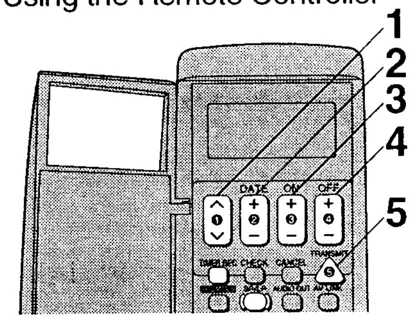
select the programme position of your VTR which receives the TV station you entered at step 2 using button ▲ or ▼.

- To extend the ending time or to make any corrections, use buttons ▲ ▼ ◀ ▶.

Notes:

- To release from the standby mode, press **TIMER REC**.
- When the ShowView number is used for programming, the recording time may be slightly longer than the actual programme time.
- When programming two or more programmes, repeat steps **1–3**.
- The procedures for checking and cancelling a timer programme are the same as on page 19.

Using the Remote Controller



For Example:

Programme position (channel);	2
Date:	27th, October
Starting time;	20:02
Ending time;	21:30

Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Open the door of the remote controller.

Operations **Display Symbols**

1 Set Programme position (channel) "2".

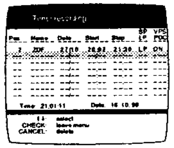
2 Set Date "27".

3 Set Starting time "20:02".

- When it is kept pressed, the indication changes in 30-minute steps.

4 Set Ending time "21:30".

5 Press **TRANSMIT**. **On Screen Display**



- The VTR will be in the timer recording standby mode after about 10 seconds.
- To release from the standby mode, press **TIMER REC.**

Weekly Timer Recording

In step **2**, select the desired day by pressing **DATE –**.
For example, SU (Sunday)

(SU=Sunday, MO=Monday, TU=Tuesday, WE=Wednesday, TH=Thursday, FR=Friday, SA=Saturday)

Daily Timer Recording

For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Monday to Friday
Ⓑ Daily recording from Monday to Saturday
Ⓒ Daily recording from Sunday to Saturday

In step **2**, select the desired days by pressing **DATE –**.
For Example, Ⓒ

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 (TV) or AV2 (DECODER/EXT) sockets, select the A1 or A2 indicator for the programme position.

Selecting the Desired Tape Speed

Press **SP/LP** in any of steps **2–4**.

Checking and Cancelling a Timer Programme

The procedures for checking and cancelling a timer programme are the same as on page 19.

Using On Screen Display

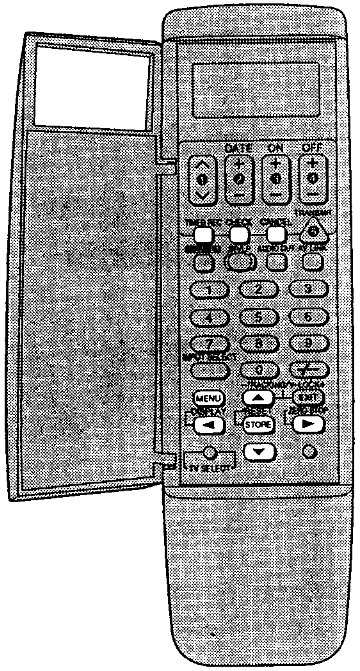
Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including weekly and daily programmes.

Preparations

- Insert a cassette tape with an intact erasure prevention tab.
- Confirm that the TV is on and the VTR viewing channel is selected.

For Example:

Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30
(Present date; 16th, October)	



Follow the operation guide on screen display.

Operations

1 Press **MENU**, and then select **Timer recording**.

2 Select the unoccupied position.

3 Set **Programme position** (channel) "2".
- Press ◄ to return to the previous item.

4 Set **Date** "27/10".

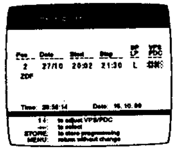
5 Set **Starting time** "20:02".
- When it is kept pressed, the indication changes in 30-minute steps.

6 Set **Ending time** "21:30".

7 Select the desired **Tape speed** **(SP/LP)**.

8 Select **VPS/PDC ON** or **OFF** (---).

On Screen Display



9 Press **STORE**.

10 To activate timer recording, press **TIMER REC**.

Weekly Timer Recording

In step **4**, select the desired day by pressing ▼.

Daily Timer Recording

For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Monday to Friday

Ⓑ Daily recording from Monday to Saturday

Ⓒ Daily recording from Sunday to Saturday

In step **4**, select the desired days by pressing ▼.

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 (TV) or AV2 (DECODER/EXT) sockets, select the A1 or A2 indicator for the programme position.

Setting other Programmes in Succession

Repeat steps **2–9**.

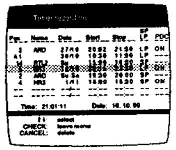
Checking a Timer Programme

- The VTR must be turned on, or the timer recording indicator "⌚" is lit.
- Confirm that the TV is on and the VTR viewing channel is selected.

Press **CHECK**.

- On Screen Display may be distorted in the PDC/VPS recording standby mode.

On Screen Display



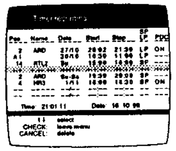
Cancelling a Timer Programme

- The VTR must be turned on, or the timer recording indicator "⌚" is lit.
- Confirm that the TV is on and the VTR viewing channel is selected.

1 Press **CHECK**.

2 Select the desired timer programme.

3 Press **CANCEL**.



Note:
If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later.
However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

PDC (Programme Delivery Control)/VPS (Video Programme System)

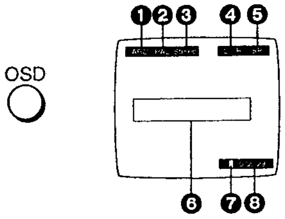
The Programme Delivery Control (PDC) or the Video Programme System (VPS) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

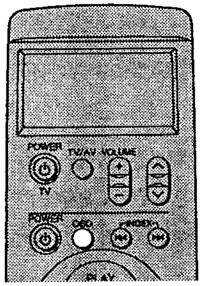
- In the case of PDC/VPS recording, use the **correct** time (PDC/VPS time) for recording the TV programmes. PDC/VPS recording is not performed when the time (PDC/VPS time) is incorrect, even if only by one minute.
- If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC/VPS controlled), the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the PDC/VPS signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular PDC/VPS signal, the timer recording will be performed in the normal mode (without PDC/VPS) even if it was programmed for PDC/VPS.
  In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.
- PDC/VPS recording is also possible during timer recording from AV2.

Other Functions

On Screen Display

Press **OSD** to make the On Screen Display appear on the TV screen.





❶ **TV station**

❷ **TV system**

❸ **Stereo or Bilingual Indicator**
When receiving a TV programme, the type of sound system in which it is broadcast is automatically indicated.

❹ **Audio Output Mode Indicators**
The Left (L) and Right (R) Indicators show which sound mode is selected with **AUDIO OUT**.
Stereo: Both the L and R Indicators appear.
Left: The L Indicator appears.
Right: The R Indicator appears.
Normal: Both the L and R Indicators don't appear.

❺ **Tape speed indicator**

❻ **Error message**

❼ **Tape running display**

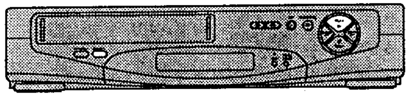
Stop, Eject	▮
Rewind	◀◀
Fast Forward	▶▶
Playback	▶
Recording	●
Repeat Playback	R

❽ **Present time/Tape counter**

Information	Display
Present time	17:24:31
Tape counter	−2:35.47
Remaining tape time	REMAIN 2:34

Notes:
- On Screen Display may be disturbed or disappear during special playback.
- When the item **"On screen display"** is set to OFF, the On Screen Display will not appear. (See page 26.)

Other Automatic Functions



Automatic Playback

When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VTR is switched off, and inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

Editing

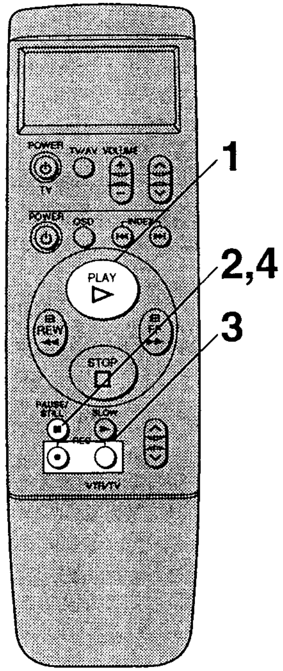
Assembly Editing

This function can be used to make up an edited tape from other recordings or video sources.

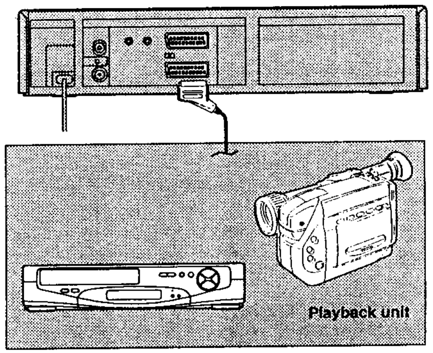
A new scene can be added to the end of a previous one.

Preparations

- Connect a movie camera or another VTR to this VTR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.
  A1: Through AV1 (TV) socket
  A2: Through AV2 (DECODER/EXT) socket



Recording VTR



Operations

1 Search for the end of the previous recording.
PLAY ▷

2 Press **PAUSE/STILL**.
PAUSE/STILL

3 Press **REC** to switch the VTR from the pause mode to the recording standby mode.
REC

4 Start the new recording by pressing **PAUSE/STILL** again.
PAUSE/STILL

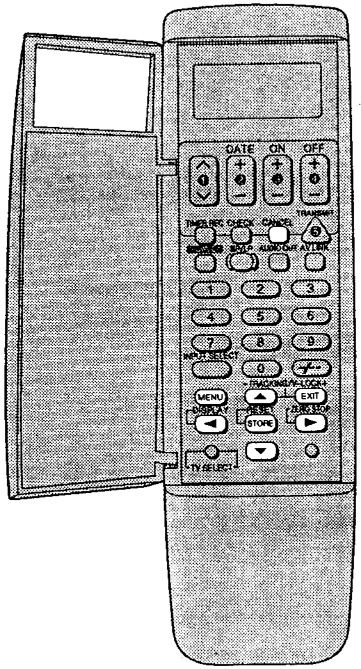
Storing TV Broadcasts into your VTR

Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.
If VTR is not correctly tuned by Auto setup, follow the procedure bellow.

Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and select the programme position except A1 and A2.



Manual Tuning Procedure

Follow the operation guide on screen display.

Operations

1 Press **MENU**.

2 Select **Settings**.

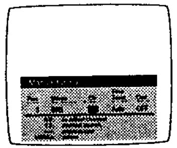
3 Select **Tuning**.

4 Select **Manual**.

5 Select desired programme position.

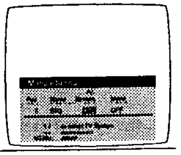
6 Select Channel **(Ch)**.

On Screen Display



7 Select **Dec ON** or **Dec OFF**.
ON: To preset pay TV stations.
OFF: To preset normal TV stations.

8 Use ◄ ► to display the next screen.
Select **TV System**.
PAL: For receiving PAL signal.
MESECAM: For receiving SECAM signal.



9 **NV-HD600EC only**
Select **Mono OFF**.
- Select **Mono ON** to record the normal sound during a stereo, bilingual or NICAM broadcast or if the stereo sound is distorted due to inferior reception conditions.

10 Press **MENU**, and then press **EXIT**.

Channel Plan

Channel Indication	TV Channel	
	Germany/Italy	Other Countries
2–12	*E2–E12	E2–E12
13–20	A–H (Only Italy)	——
21–69	21–69	21–69
74–76	——	S1–S3
80–82	——	M1–M3
83–89	S4–S10	M4–M10
90–99	S11–S20	U1–U10
121–141 Hyperband	**S21–S41	S21–S41

*In Italy: H1...(11), H2...(12)
**Only for 8 MHz channel raster

To change the programme position or TV station name:

After step **5** but before step **8**, select the programme position **(Pos)** or TV station name **(Name)** item using ◄ ►, and then make the desired change.

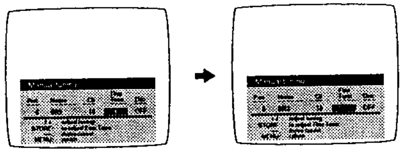
Fine Tuning Procedure

Follow steps **1** to **5** on page 22.

6 Select **Fine Tune**.

7 Press ▲ or ▼ to obtain the best tuning condition.
- To return the tuning to its former state, press **STORE**.

On Screen Display



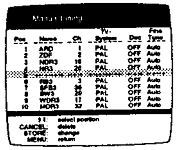
8 Press **MENU**, and then press **EXIT**.

Blanking of Unoccupied Programme positions

Follow steps **1** to **4** on page 22.

5 Select the desired TV station.

6 Press **CANCEL**.



- Repeat steps **5** and **6** for another unoccupied programme positions to skip during the selection of the programme positions.

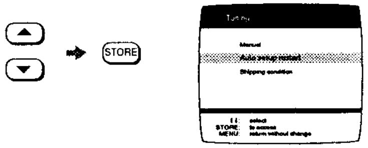
7 Press **EXIT**.

Auto Setup Restart

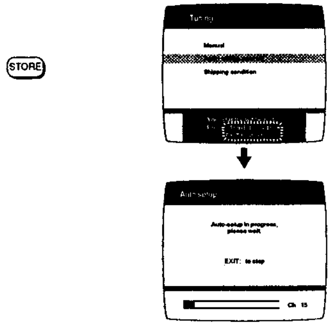
When your address changes, follow the procedure below.
Follow the steps **1** to **3** on page 22.

4 Select **Auto setup restart.**

On Screen Display


STORE
Tuning
Manual
Auto setup restart
Shipping condition
select
STORE: to access
MENU: return without change

5 Press **STORE.**

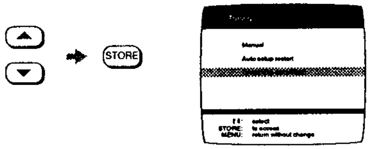

STORE
Tuning
Manual
Auto setup restart
Shipping condition
Auto setup
Auto-setup in progress,
please wait
EXIT: to stop

- After the Auto setup, select the your country to set TV station list, guide number for ShowView and language. See page 11.

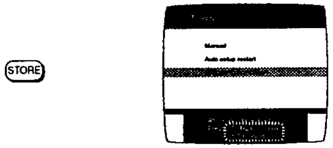
Shipping Condition

If you want to return the VTR to the factory-preset condition, follow the procedure bellow.
Follow the steps **1** to **3** on page 22.

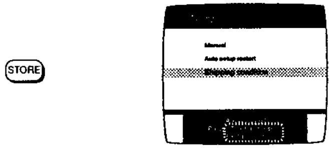
4 Select **Shipping condition.**


STORE
Manual
Auto setup restart
select
STORE: to access
MENU: return without change

5 Press **STORE.**


STORE
Manual
Auto setup restart

6 Press **STORE** again.


STORE
Manual
Auto setup restart
Shipping condition

Note:
To re-tune VTR, disconnect mains lead and then reconnect mains lead. If VTR is off, turn on the VTR. Auto setup starts.

Setting the Clock of your VTR

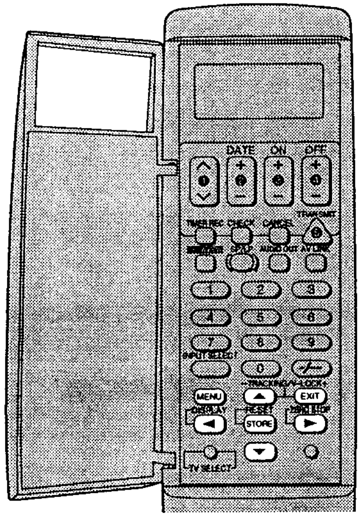
The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.

The built-in digital clock employs the 24-hour system.

If VTR is not correctly set by Auto setup, follow the procedure below.

Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR.


DATE
ON
OFF
TIMER REC
CHECK
CANCEL
TIMER SHIFT
SP/LP
AUDIO OUT
AV LINK
1
2
3
4
5
6
7
8
9
0
INPUT SELECT
TRACKING/V-LOCK
MENU
EXIT
DISPLAY
RESET
STORE
TV SELECT

Manual Clock Setting

Follow the operation guide on screen display.

Operations

1 Press **MENU**, and then select **Settings**.

2 Select **Clock.**

3 Select **Manual setting.**

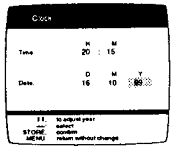
4 Set **Time (H/M).**
- When it is kept pressed, the indication changes in 30-minute steps.
- Press ◀ to return to the previous item.

5 Set **Date (D).**

6 Set **Month (M).**

7 Set **Year (Y).**
- There is no need to press ▶.

On Screen Display


Clock
H
M
Time
20 : 15
D
M
Y
Date
16
10
99
to adjust year
select
STORE: confirm
MENU: return without change

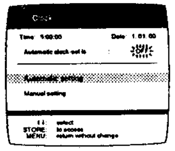
8 Press **STORE.**
- The clock will start.

9 Press **EXIT.**

Automatic Clock Setting

Follow steps **1** to **2** of the above procedure.

3 Select **Automatic setting.**


Clock
Automatic setting
Manual setting
select
STORE: to access
MENU: return without change

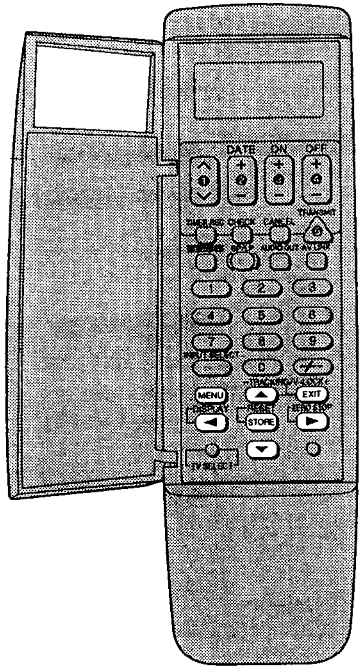
4 Press **STORE.**
- The clock is set automatically.

Notes:
- The clock operates for at least 60 minutes by its backup system in the event of power failure.
- When the item **"Automatic clock-set is"** is ON on screen display, Automatic time correcting function is activated.
The Automatic time correcting function is only activated when the power is off. This function is not activated during timer recording standby mode.

Settings Usings On Screen Display

Preparations

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR.

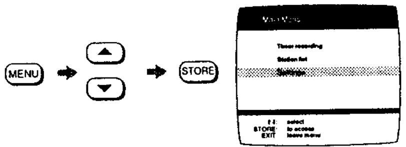


VTR functions

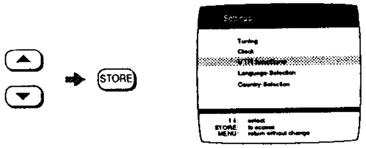
On Screen Display

1 Press **MENU**, and then select **Settings**.

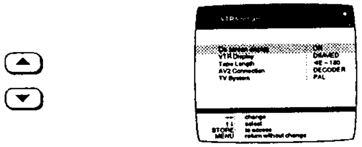
On Screen Display



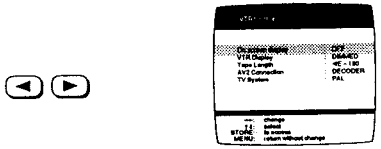
2 Select **VTR functions**.



3 Select **On screen display**.



4 Select **ON** or **OFF**.

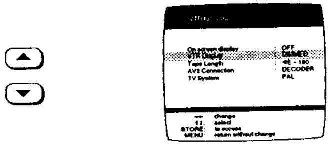


ON:	The On Screen Display will appear on the TV screen by pressing **OSD**.
OFF:	The On Screen Display will not appear even if **OSD** is pressed.

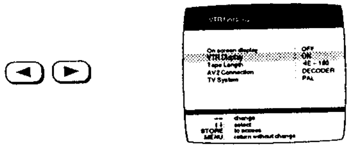
VTR Display

1 Select **VTR Display**.

On Screen Display



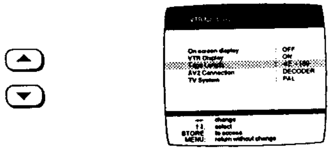
2 Select **ON**, **OFF** or **DIMMED**.



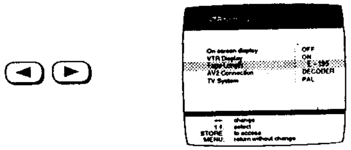
ON:	When VTR is turned off, the characters are lit in the VTR display.
OFF:	When VTR is turned off, the characters are not lit in the VTR display.
DIMMED:	When VTR is turned off, the characters are dimmed in the VTR display.

To select the Corresponding Cassette Tape Length for Displaying the Approximate Remaining Tape Time

1 Select **Tape Length**.



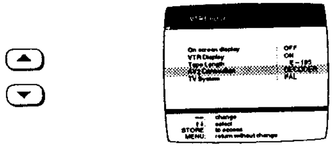
2 Select the corresponding cassette tape length.



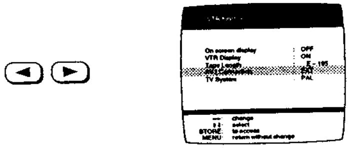
◄ E-180:	For E30, -60, -90, -120 and -180 tapes.
E-195:	For E195 tape.
E-240:	For E240 tape.
E-260 ►:	For E260 and -300 tapes.

AV2 Connection

1 Select **AV2 Connection**.



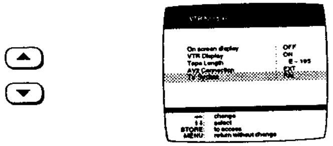
2 Select **EXT** or **DECODER**.



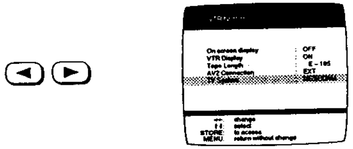
EXT:	When another VTR is connected to the AV2 (DECODER/EXT) socket.
DECODER:	When the decoder is connected to the AV2 (DECODER/EXT) socket.

To set the Colour TV System

1 Select **TV System**.



2 Select **PAL** or **MESECAM**.



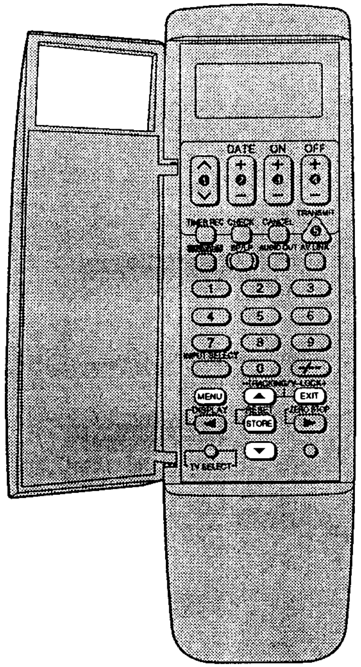
- Set according to the colour TV system used during playback or external recording.

After All Settings are selected

Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

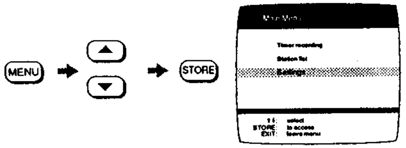
Language-Selection

To change the language setting for On Screen Display, follow the steps bellow.

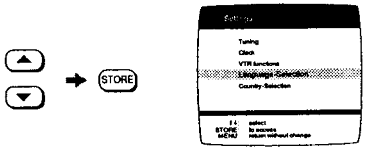

DATE
ON
OFF
TRANSMIT
MENU
EXIT
STORE
TV SELECT

1 Press **MENU**, and then select **Settings**.

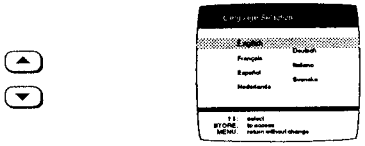
On Screen Display


MENU
STORE
Main Menu
Timer recording
Station list
Settings
↑↓: select
STORE: to access
EXIT: leave menu

2 Select **Language-Selection**.


STORE
Settings
Tuning
Clock
VTR functions
Language-Selection
Country-Selection
↑↓: select
STORE: to access
MENU: return without change

3 Select the desired language.

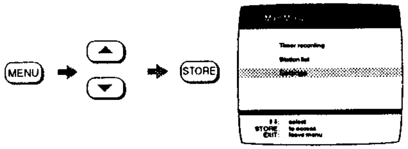

Language-Selection
English
Deutsch
Français
Italiano
Español
Svenska
Nederlands
↑↓: select
STORE: to access
MENU: return without change

4 Press **STORE**, and then press **EXIT**.

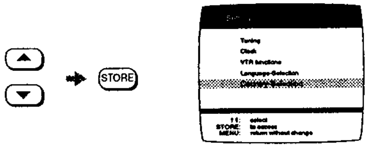
Country-Selection

To change the country setting, follow the steps bellow.

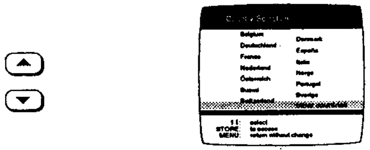
1 Press **MENU**, and then select **Settings**.


MENU
STORE
Main Menu
Timer recording
Station list
Settings
↑↓: select
STORE: to access
EXIT: leave menu

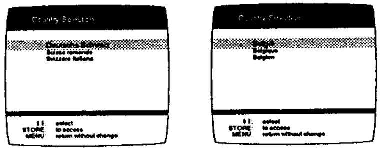
2 Select **Country-Selection**.


STORE
Settings
Tuning
Clock
VTR functions
Language-Selection
Country-Selection
↑↓: select
STORE: to access
MENU: return without change

3 Select the desired country.


Country-Selection
Belgium
Danmark
Deutschland
España
France
Italia
Nederland
Norge
Österreich
Portugal
Suomi
Sverige
Switzerland
other countries
↑↓: select
STORE: to access
MENU: return without change

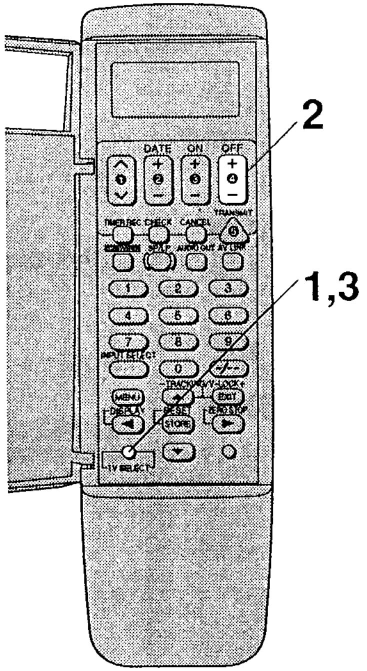
- When Switzerland or Belgium has been selected, operation moves to the screen which follows. Select the item in accordance with the language required.


Country-Selection
Deutsche Schweiz
Suisse romande
Svizzera italiana
België
Belgique
Belgien
↑↓: select
STORE: to access
MENU: return without change

4 Press **STORE**, and then press **EXIT**.

Setting the Remote Controller for Operation of your TV

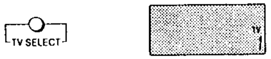
You can operate some TV manufacturers (see next page) using the supplied Remote Controller after this setting up.


2
1,3
DATE
ON
OFF
TRANSMIT
MENU
EXIT
STORE
TV SELECT

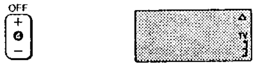
Preparation
Turn on the TV.

Operations **Display Symbols**

1 Keep **TV SELECT** pressed for more than 2 seconds.


TV SELECT
TV
1

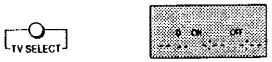
2 Press **OFF** several times.



- When the number matches the manufacturer of your TV, the TV's power is turned off.

Read through the information on the following page as well.

3 Press **TV SELECT**.


TV SELECT
ON
OFF

How to change the number
Each time the "+" side of **OFF** is pressed, the number is counted up by one as follows:

→1→2→3...28→

When the "–" side is pressed, the number is counted down by one in the reverse order to that indicated above.

Note:
Some TV models cannot be operated using this remote controller.

Number	Manufacturer
1–4	Panasonic
5	GRUNDIG, Blaupunkt, SIEMENS
6	PHILIPS, LOEWE, SAMSUNG, RADIOLA, DUAL, PYE, BUSH, GOODMANS, ELEMIS, CURTIS
7	SONY
8	METZ
9*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
10*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS
11*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
12*	FERGUSON, TELEFUNKEN, GOODMANS, SABA
13*	TELEFUNKEN
14*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
15*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA, NORDMENDE, BRANDT
16*	TELEFUNKEN
17, 18	HITACHI
19	SIEMENS
20	SAMSUNG
21	ITT, NOKIA, SELECO
22	NOKIA, SALORA
23	MIVAR
24	TOSHIBA
25	SANYO
26	SHARP
27	JVC
28	MITSUBISHI

When a TV manufacturer has the plural number

For example, When the number is 1, 2, 3 or 4 (Panasonic):

When the TV's power is turned off in step **2** above, turn it back on and adjust the TV's volume using this remote controller. The volume can be adjusted if the number matches the TV manufacturer. If it is not possible to adjust the TV's volume, try setting the number (1 to 4) to match the TV manufacturer again until the volume can be adjusted.

***When the number is 9–16**

How to change the programme position of TV:

1 Press **∧ (TV)** to make **POS** appear on screen display.

2 Press **VOLUME +** or **–**.

- To adjust the TV's volume using the remote controller after that, press **∧ (TV)** to make **POS** on screen display disappear and then adjust the volume. For some models, **POS** disappears automatically after several seconds. In these cases, this operation is not necessary.

Note:

FERGUSON, THOMSON, TELEFUNKEN, GOODMANS and SABA have plural numbers. Although some models may operate with any of these numbers, other models may operate with only one number. Check each number in turn, and set the optimal number.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

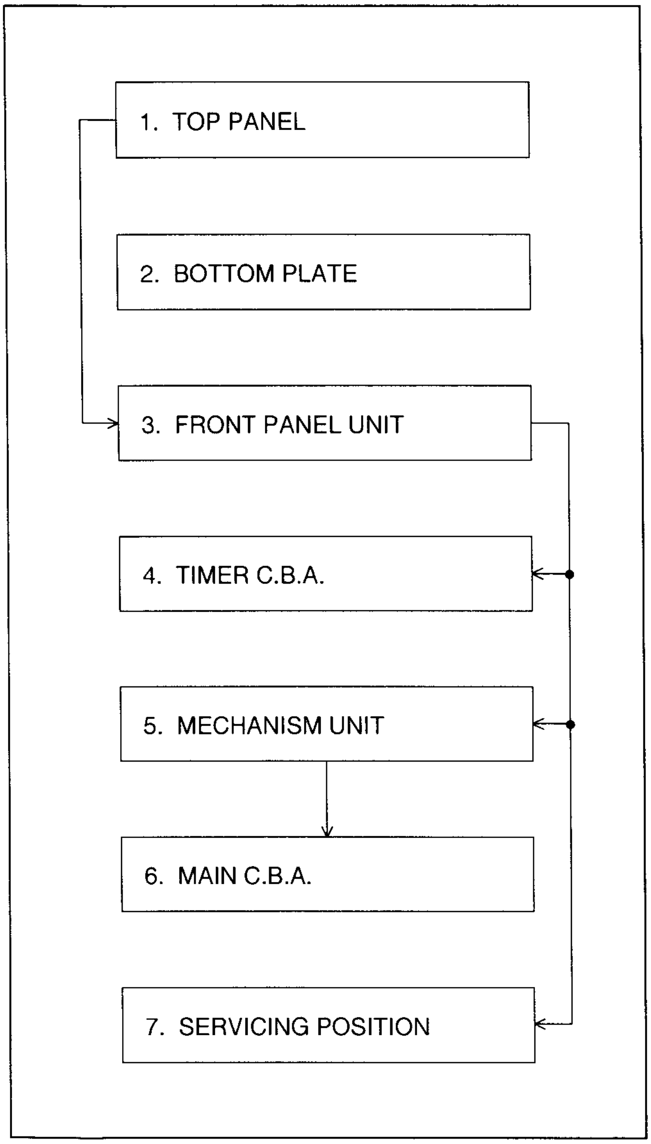

1. TOP PANEL
2. BOTTOM PLATE
3. FRONT PANEL UNIT
4. TIMER C.B.A.
5. MECHANISM UNIT
6. MAIN C.B.A.
7. SERVICING POSITION

Fig. D1

2-1-2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL

Remove...... 4 Screws (A)

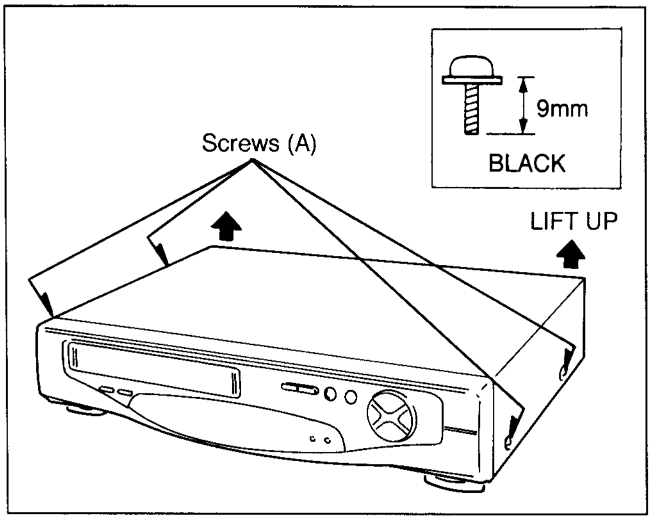

Screws (A)
9mm
BLACK
LIFT UP

Fig. D2

2. REMOVAL OF THE BOTTOM PLATE

Remove...... Screw (B)
Remove...... 2 Screws (C)
Unlock .... 4 tabs (D)

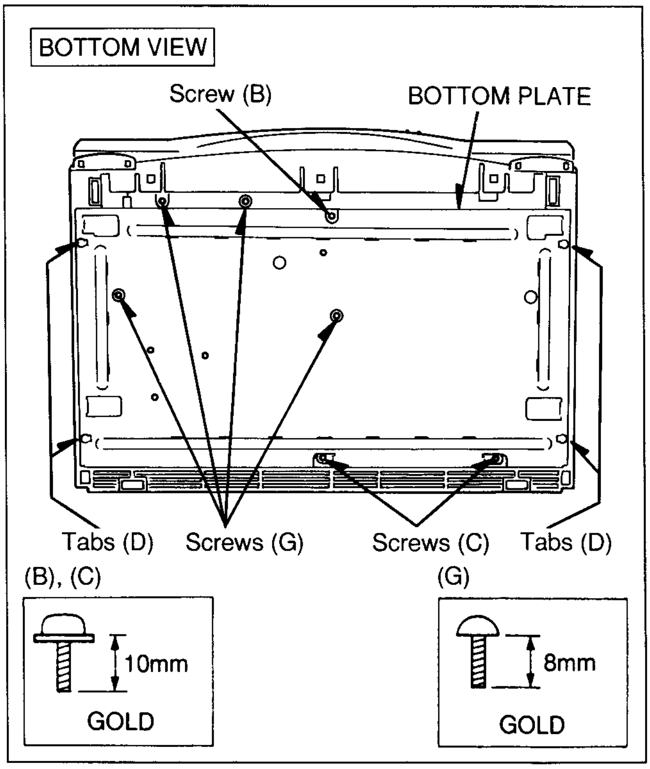

BOTTOM VIEW
Screw (B)
BOTTOM PLATE
Tabs (D)
Screws (G)
Screws (C)
Tabs (D)
(B), (C)
10mm
GOLD
(G)
8mm
GOLD

Fig. D3

3. REMOVAL OF THE FRONT PANEL UNIT

Remove...... Screw (D)
Unlock .... 8 Tabs (E)

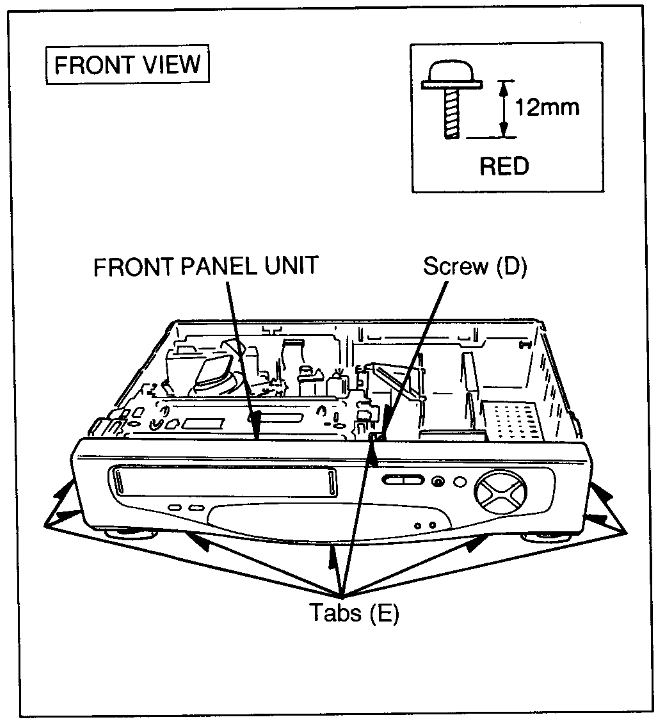

FRONT VIEW
12mm
RED
FRONT PANEL UNIT
Screw (D)
Tabs (E)

Fig. D4

4. REMOVAL OF THE TIMER C.B.A.

Unlock .... 5 Tabs (F)

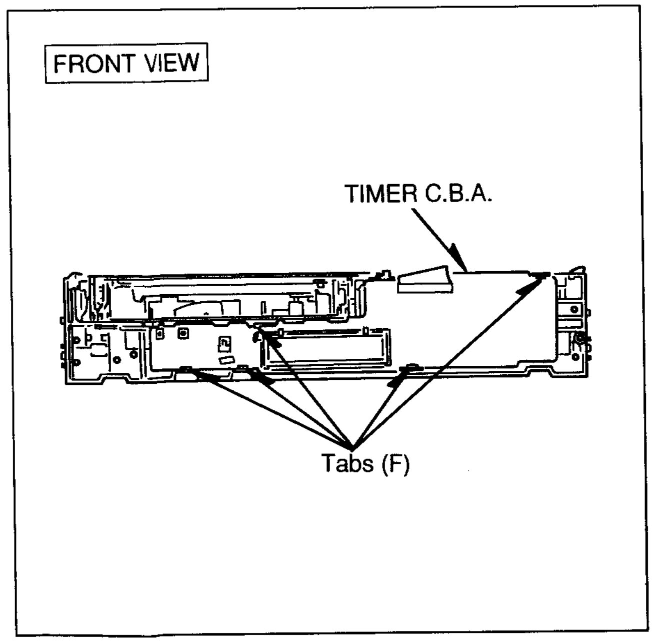

FRONT VIEW
TIMER C.B.A.
Tabs (F)

Fig. D5

5. REMOVAL OF THE MECHANISM UNIT

Remove...... 3 Screws (G) [Fig. D3]
Remove...... 3 Screws (H)
Remove...... Screw (I)
Unlock .... Tab (J) and PACK HOLDER

6. REMOVAL OF THE MAIN C.B.A.

Remove...... 2 Screws (C) [Fig. D3]
Unlock .... 7 Tabs (K)

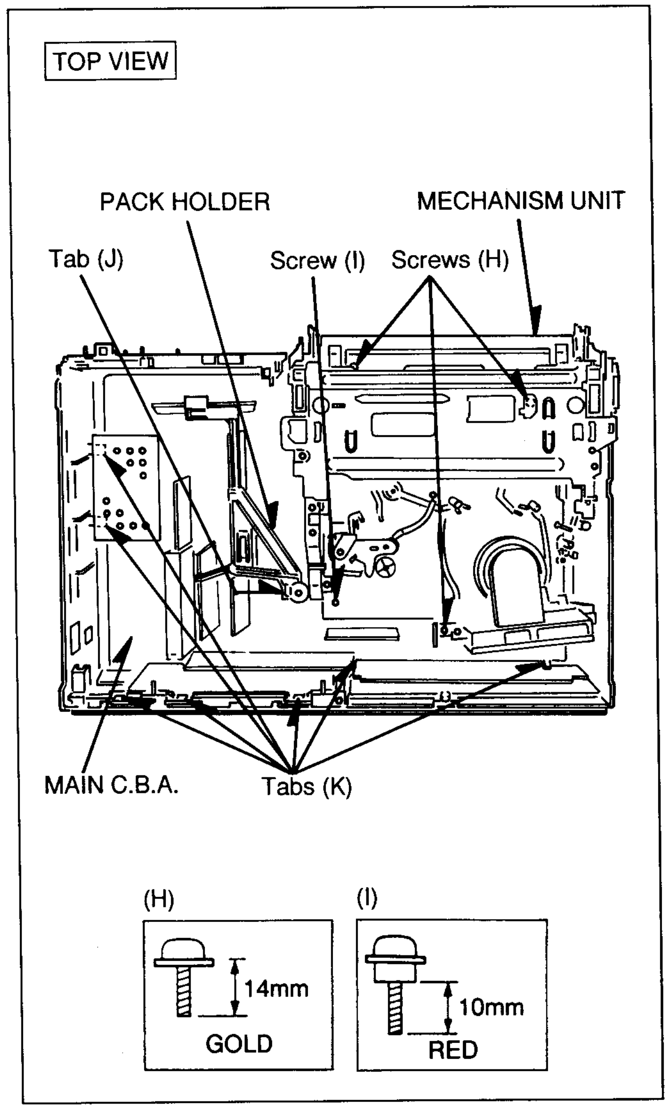

TOP VIEW
PACK HOLDER
MECHANISM UNIT
Tab (J)
Screw (I)
Screws (H)
MAIN C.B.A.
Tabs (K)
(H)
14mm
GOLD
(I)
10mm
RED

Fig. D6

7. SERVICING POSITION

Remove...... 2 Screws (C) [Fig. D3]
Remove...... 3 Screws (H)
Remove...... Screw (I)
Unlock .... Tab (J) and PACK HOLDER
Unlock .... 7 Tabs (K)

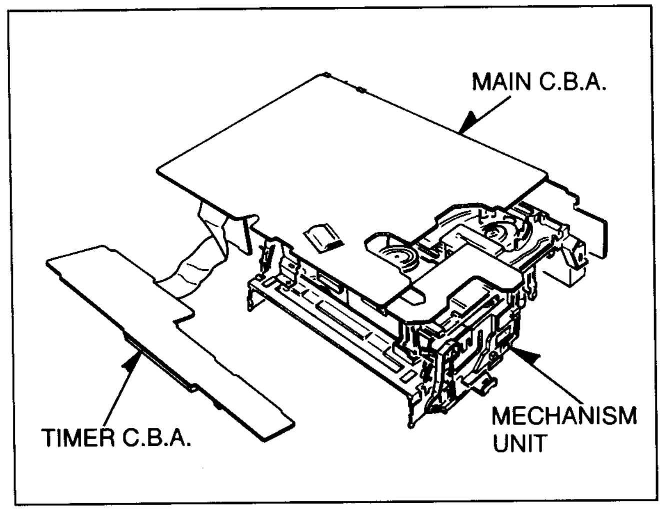

MAIN C.B.A.
TIMER C.B.A.
MECHANISM UNIT

Fig. D7

2-2. MECHANICAL ADJUSTMENT PROCEDURES

The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

CAUTIONS:

To make a Adjustment Mode for Tape Interchangeability, there are two ways to turn off the Auto Tracking.

(1) Connect a jumper wire (K2501) which has been cut as shown in Fig. M1.
After finishing the adjustment, disconnect the jumper wire.
(2) Press the "FF", "REW" and "EJECT" buttons 3 times to set the Service Mode 2.

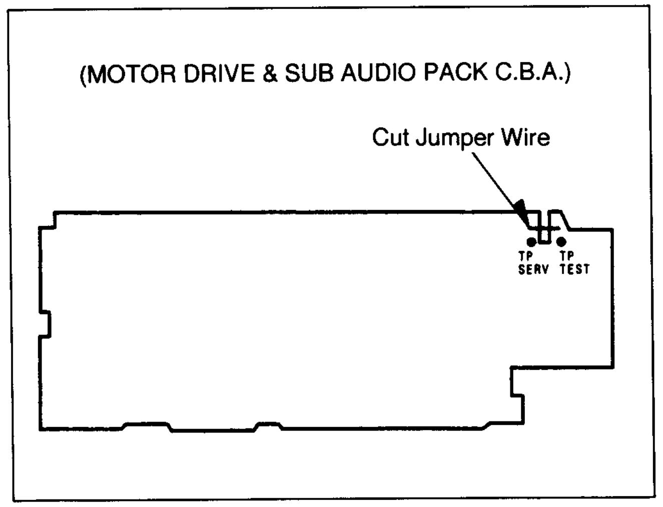

(MOTOR DRIVE & SUB AUDIO PACK C.B.A.)
Cut Jumper Wire
TP SERV
TP TEST

Fig. M1

2-3. DISASSEMBLY PROCEDURES OF MECHANISM

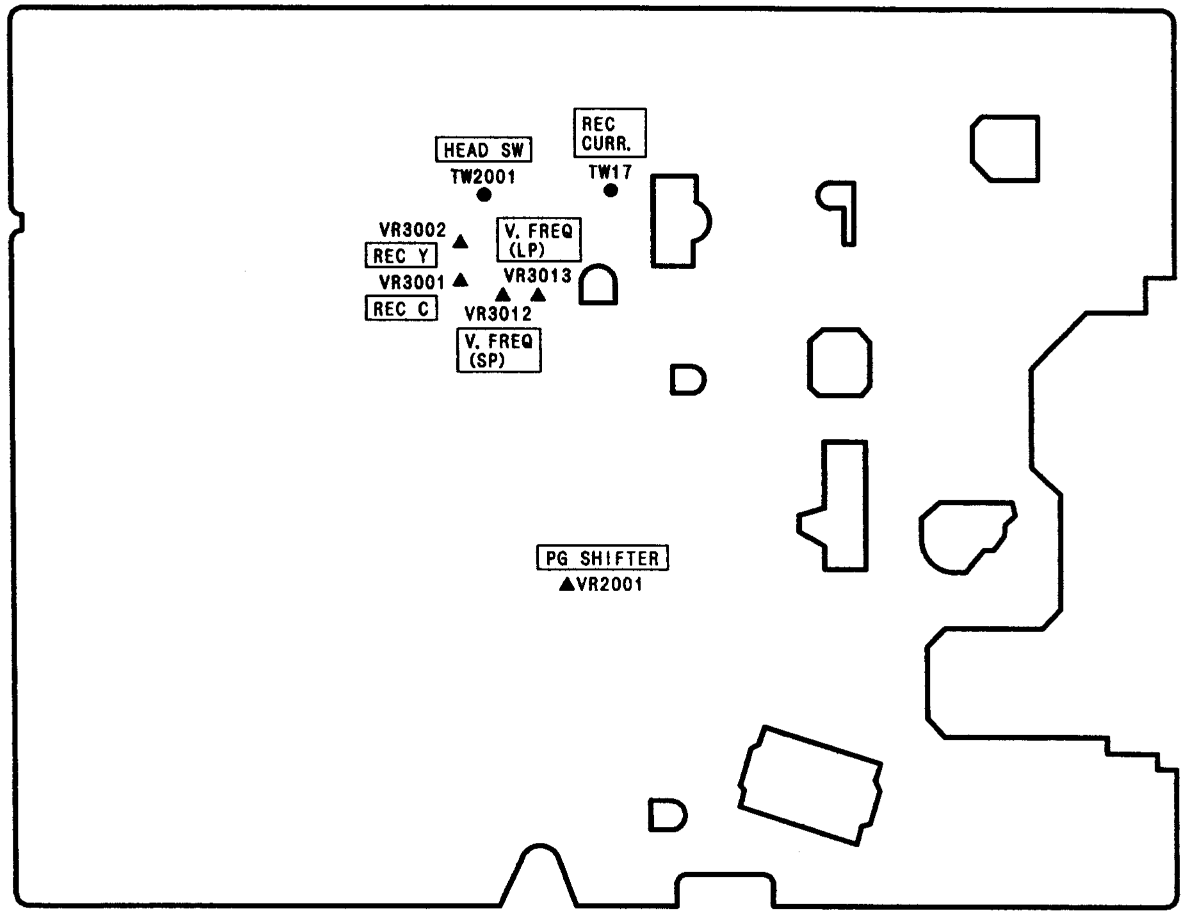
The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

2-4. ASSEMBLY PROCEDURES OF MECHANISM

The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

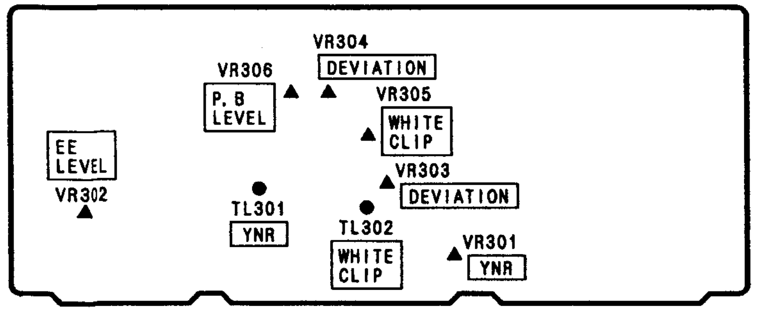
LOCATION OF TEST POINTS & CONTROLS

MAIN C. B. A.



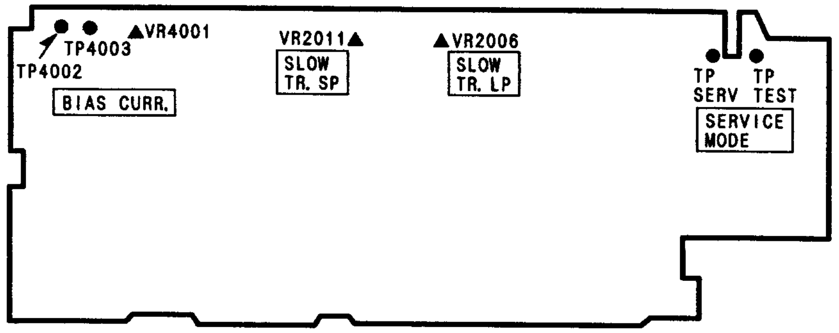
HEAD SW
TW2001
REC CURR.
TW17
VR3002
REC Y
V. FREQ (LP)
VR3001
REC C
VR3013
VR3012
V. FREQ (SP)
PG SHIFTER
VR2001

LUMINANCE & CHROMINANCE PACK C. B. A.



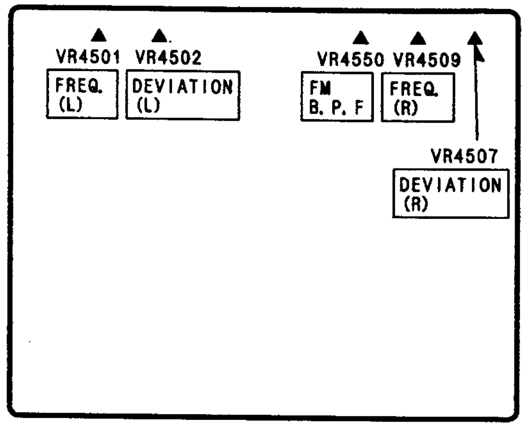
EE LEVEL
VR302
VR306
P. B LEVEL
VR304
DEVIATION
VR305
WHITE CLIP
TL301
YNR
VR303
DEVIATION
TL302
WHITE CLIP
VR301
YNR

MOTOR DRIVE & SUB AUDIO PACK C. B. A.



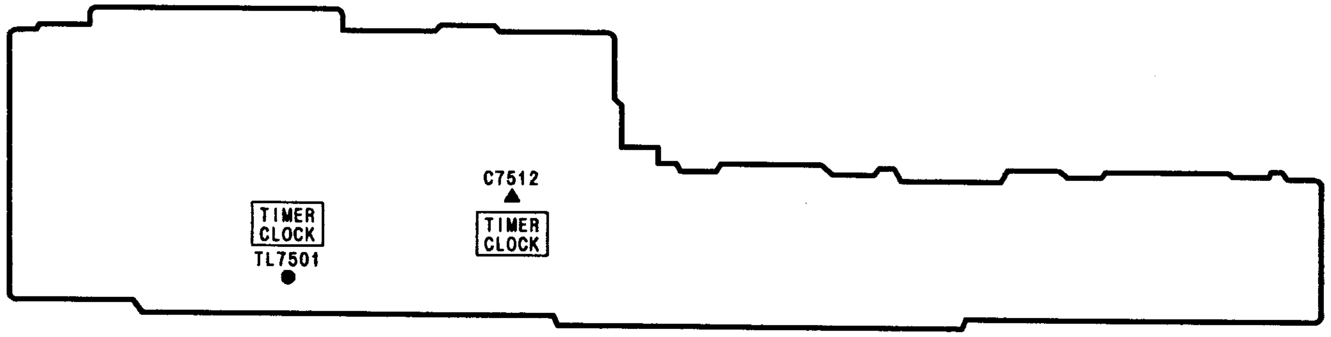
TP4003
VR4001
TP4002
BIAS CURR.
VR2011
SLOW TR. SP
VR2006
SLOW TR. LP
TP SERV
TP TEST
SERVICE MODE

Hi-Fi AUDIO PACK C. B. A.



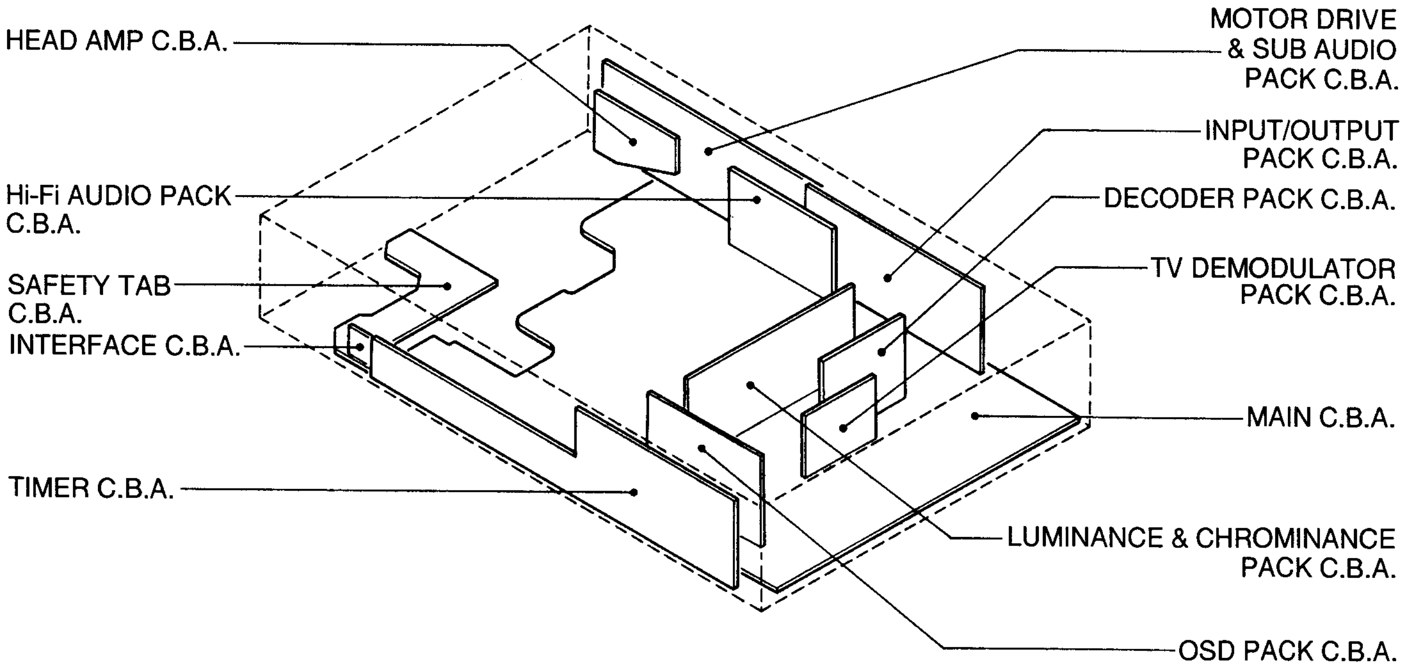
VR4501
VR4502
FREQ. (L)
DEVIATION (L)
VR4550
VR4509
FM B. P. F
FREQ. (R)
VR4507
DEVIATION (R)

TIMER C. B. A.



C7512
TIMER CLOCK
TIMER CLOCK
TL7501

CIRCUIT BOARD LAYOUT



HEAD AMP C.B.A.
Hi-Fi AUDIO PACK C.B.A.
SAFETY TAB C.B.A.
INTERFACE C.B.A.
TIMER C.B.A.
MOTOR DRIVE & SUB AUDIO PACK C.B.A.
INPUT/OUTPUT PACK C.B.A.
DECODER PACK C.B.A.
TV DEMODULATOR PACK C.B.A.
MAIN C.B.A.
LUMINANCE & CHROMINANCE PACK C.B.A.
OSD PACK C.B.A.

2-5. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete adjustment procedures required for electric circuits of VHS Video Cassette Recorders.

2-5-1. TEST EQUIPMENT

To perform electrical adjustments following equipment is required.

1. Dual-Trace Oscilloscope. (More than 35MHz)
   Voltage Range: 0.005-5V/div
   Frequency Range: DC-35MHz
   Probes: 10:1 OR 1:1
2. Frequency Counter.
   Frequency Range: 0-10MHz
   Probes: 1:1
3. Universal Counter.
4. Digital Volt Meter. (D.V.M.)
5. Video Sweep Generator.
6. Sine Wave Generator.
7. Video Pattern Generator.
8. VHS Alignment Tape. (VFJ8125H3F)
9. VHS Blank Tape.
10. Monitor.
11. Plastic Tip Driver.
12. DC Power Supply.

2-5-2. PREPARATION

During adjustment, set each selector as follows: when no indication in the procedure.

CVC SW ....ON
TAPE SPEED ....SP
CHANNEL...AV1
TEST SIGNAL SW (REAR) ....OFF

2-5-3. HOW TO READ ADJUSTMENT PROCEDURES

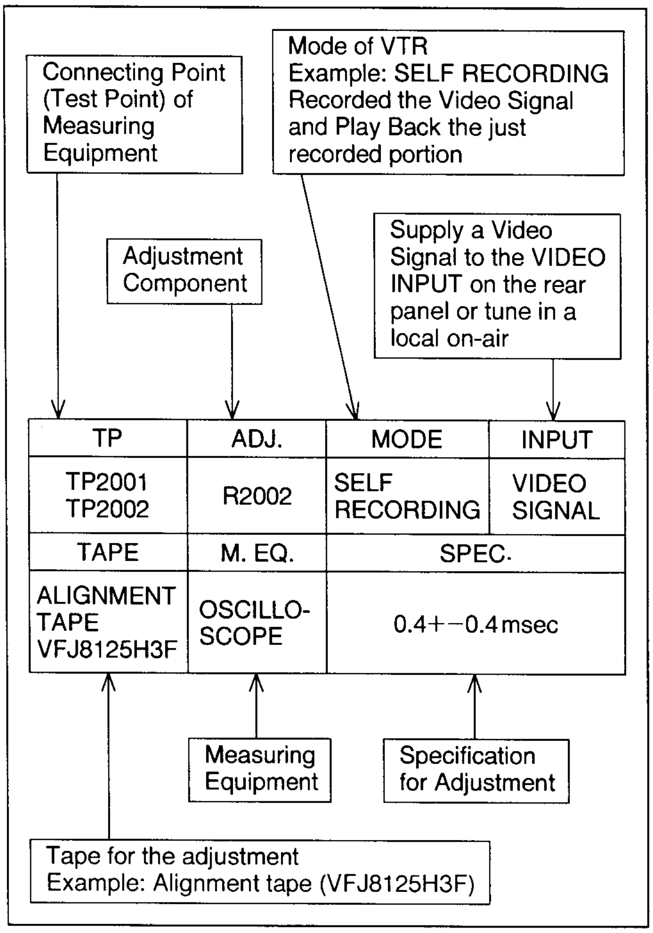

Connecting Point (Test Point) of Measuring Equipment
Mode of VTR
Example: SELF RECORDING
Recorded the Video Signal and Play Back the just recorded portion
Adjustment Component
Supply a Video Signal to the VIDEO INPUT on the rear panel or tune in a local on-air
TP
ADJ.
MODE
INPUT
TP2001
TP2002
R2002
SELF RECORDING
VIDEO SIGNAL
TAPE
M. EQ.
SPEC.
ALIGNMENT TAPE VFJ8125H3F
OSCILLO-SCOPE
0.4+−0.4msec
Measuring Equipment
Specification for Adjustment
Tape for the adjustment
Example: Alignment tape (VFJ8125H3F)

Fig. E1

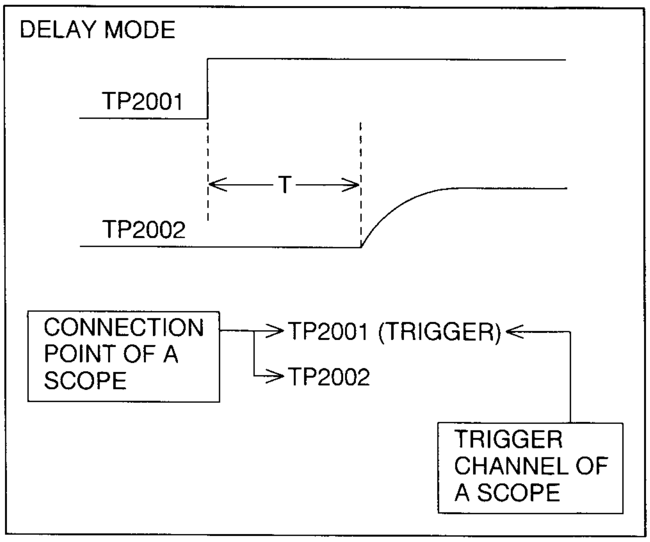

DELAY MODE
TP2001
T
TP2002
CONNECTION POINT OF A SCOPE
TP2001 (TRIGGER)
TP2002
TRIGGER CHANNEL OF A SCOPE

Fig. E2

SERVO SECTION

2-5-4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TW2001 VIDEO OUT	VR2001	PLAYBACK	
TAPE	M. EQ.	SPEC.	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	7.0+−0.5 (H)	

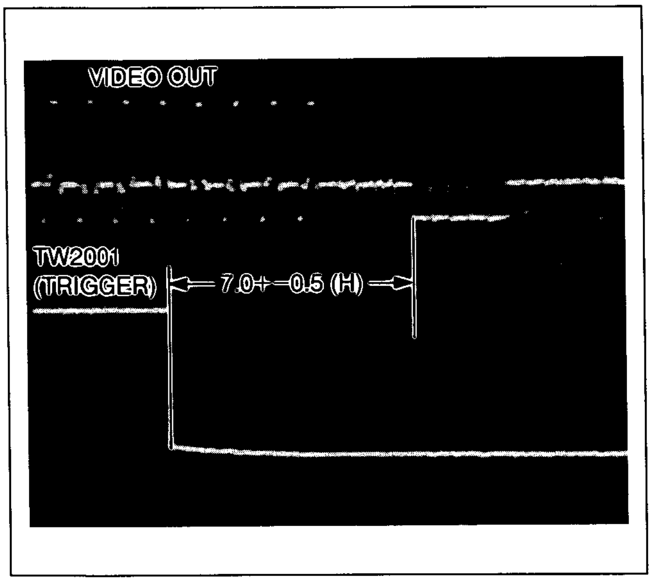


Fig. E3

2-5-5. SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR SCREEN	VR2011 (SP) VR2006 (LP)	(SELF RECORD) SLOW	CCIR PATTERN
TAPE	M. EQ.	SPEC.	
BLANK TAPE	MONITOR TV	Noise bar on the monitor screen is minimized. (Shown in Fig. E5)	

Note: 1. Before this adjustment, connect a jumper wire which has been cut as shown in Fig. E4 or set the service mode 2 (refer to section 2-2).

2. After connecting a jumper wire or setting the service mode 2, press the TRACKING (+) and (−) buttons on the Remote Controller simultaneously to set the tracking to centre fix position.

3. After this adjustment, disconnect a jumper wire or cancel the service mode.

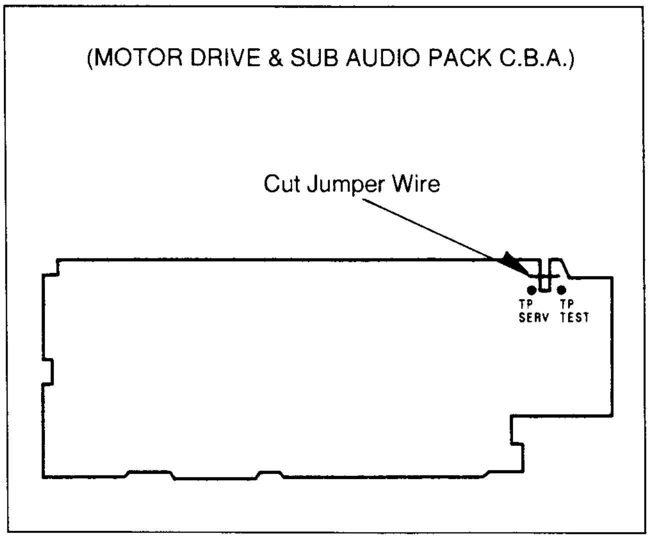


Fig. E4

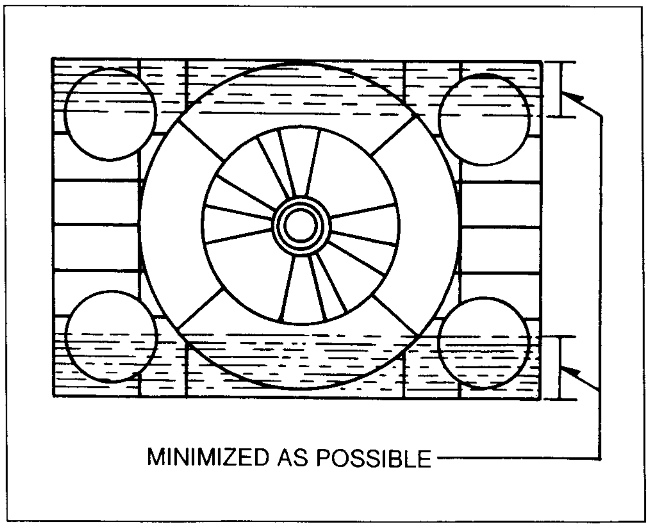


Fig. E5

LUMINANCE & CHROMINANCE SECTION

2-5-6. RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TW17	VR3002 (Y) VR3001 (C)	SP RECORDING	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	Y=120+−5 (mVp-p) C=38+−2 (mVp-p)	

Note: 1. Adjust the Luminance level until the peak level of V-SYNC is 120+−5 mVp-p.

2. When adjusting the Chrominance level, Supply +5V DC to Pin 6 of PP3001 to eliminate Luminance component.

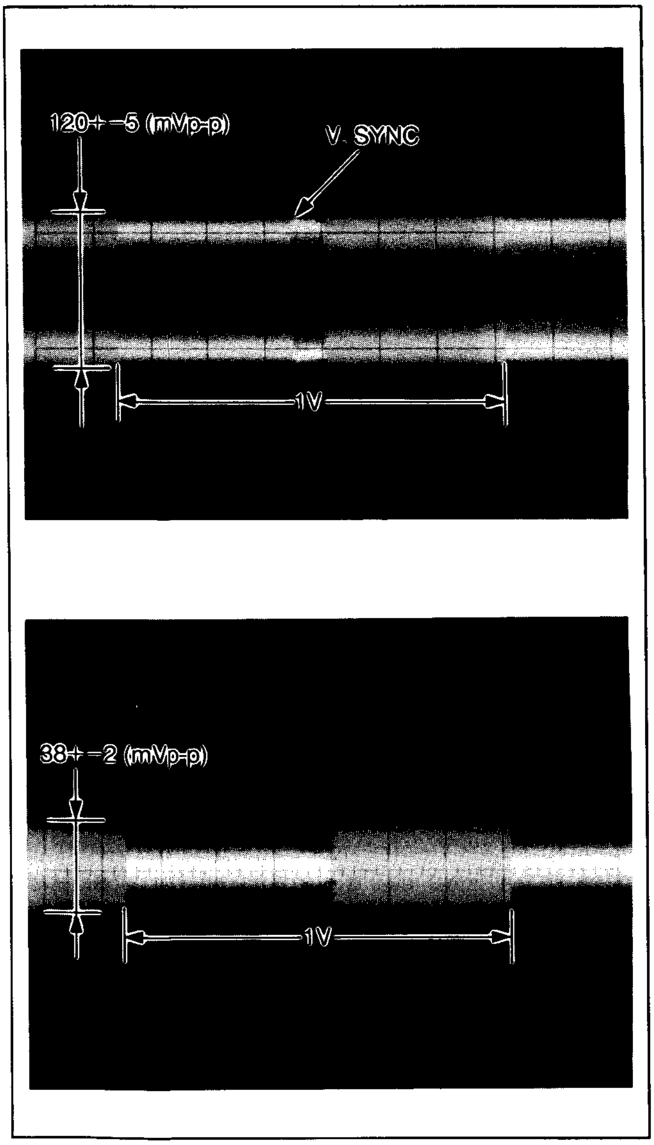


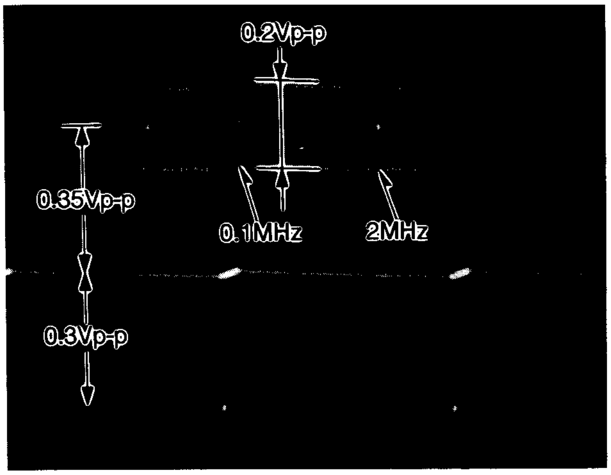
Fig. E6

2-5-7. VIDEO FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3012 (SP) VR3013 (LP)	SP/LP (SELF RECORD) PLAYBACK	VIDEO SWEEP SIGNAL (Shown in Fig. E7)
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE/ VIDEO SWEEP GENERATOR	SP: 0+−1 (dB) (90−110%) LP: 0+−1 (dB) (90−110%)	

Note: 1. Set the Video Sweep Signal as shown in Fig. E7.

2. Set the CVC SW to OFF position.



CONDITION: BURST SIGNAL OFF
75 ohm TERMINATED

Fig. E7

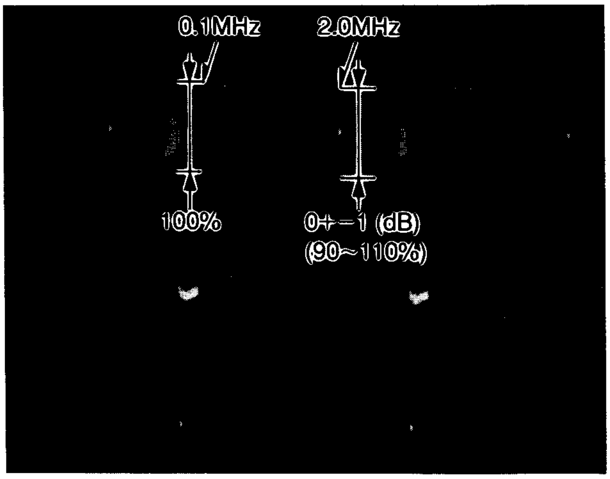


Fig. E8

2-5-8. EE LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR302	STOP	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	Y: 2.0+−0.1 Vp-p	

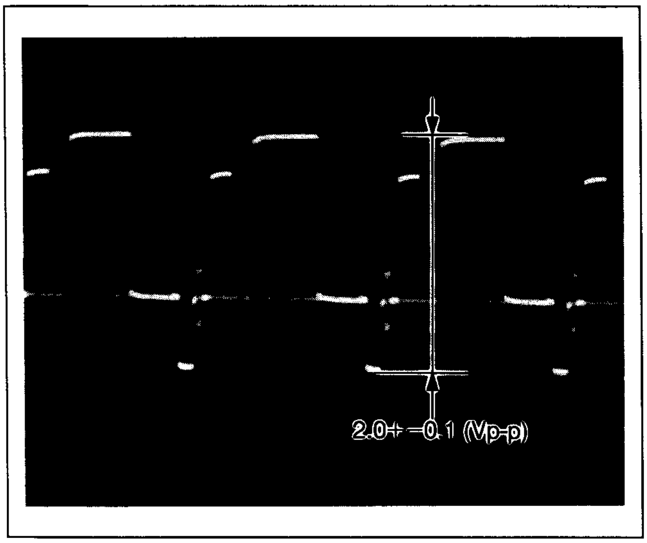


Fig. E9

2-5-9. WHITE CLIP ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC302-80 (TL302)	VR305	RECORDING	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	WHITE CLIP LEVEL: 185+−3%	

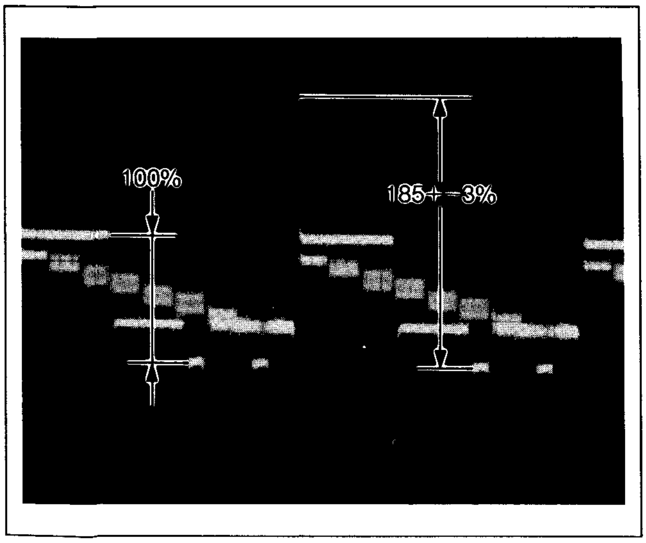


Fig. E10

2-5-10. PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR306	PLAYBACK	
TAPE	M. EQ.	SPEC.	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	Y: 2.0+−0.1 Vp-p CYAN: 1.1+−0.3 Vp-p	

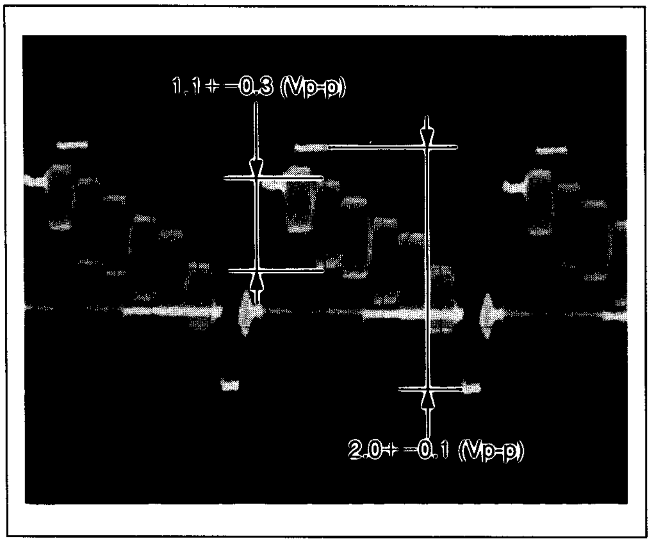


Fig. E11

2-5-11. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR303 VR304	(SELF RECORDED) PLAYBACK	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	Y: 2.0+−0.1 (Vp-p) (VIDEO: SYNC=70 : 30)	

Note:
1. Before this adjustment, the PLAYBACK LEVEL ADJUSTMENT (2-5-10) must be done.
2. Record the colour bar signal and adjust VR303 and VR304 during recording.
3. Playback the just recorded portion and confirm the playback Y-signal level is 2.0+−0.1 Vp-p.
4. If the signal level is out of the specification, repeat 2 and 3 until the signal level is the specification.

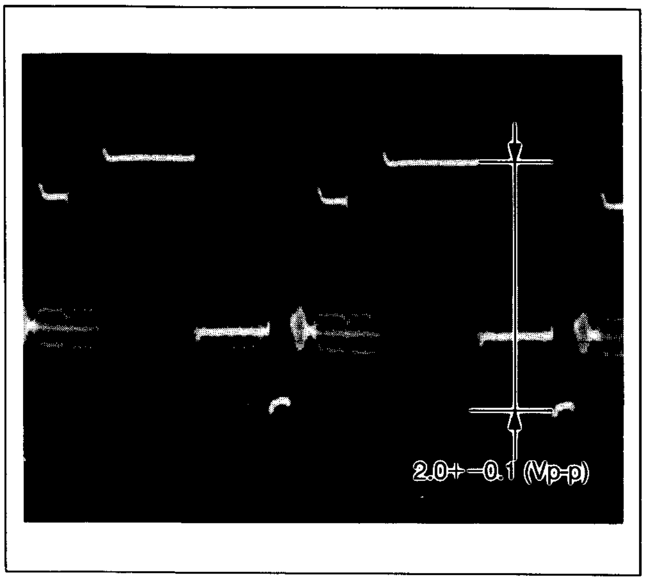


Fig. E12

2-5-12 YNR ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC302-71 (TL301)	VR301	STOP	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	WAVEFORM IS MINIMUM	

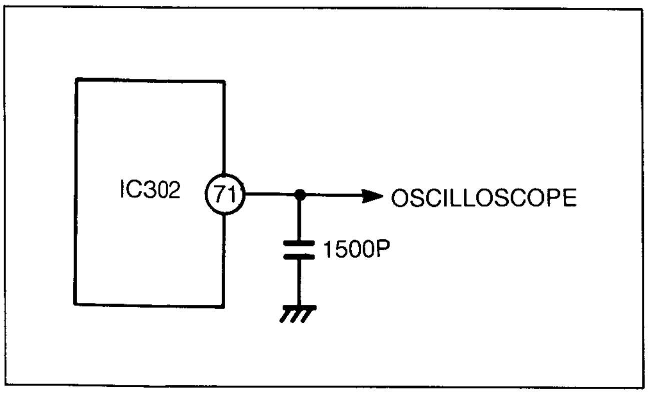


Fig. E13

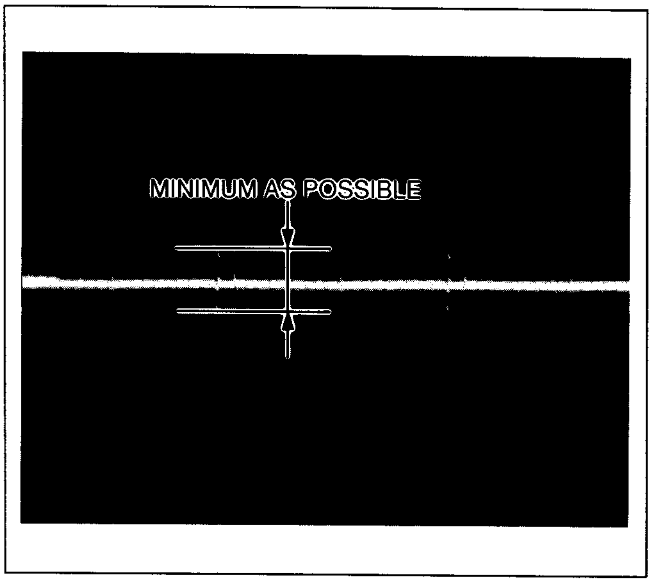


Fig. E14

AUDIO SECTION

2-5-13. BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (HOT) TP4003 (GND)	VR4001	RECORDING	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	D.V.M.	2.6+−0.1 (mVrms)	

Note: 1. Connect the Audio Input and GND.

2-5-14. CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-34 (L) IC4501-47 (R)	VR4501 (L) VR4509 (R)	SP RECORDING	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	FREQUENCY COUNTER	L: 1.4+−0.003 (MHz) R: 1.8+−0.003 (MHz)	

2-5-15. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
BETWEEN VR4502 and R4511 (L) BETWEEN VR4507 and R4561 (R)	VR4502 (L) VR4507 (R)	SP RECORDING	SINEWAVE 1KHz/−10dB (AV1 IN)
TAPE	M. EQ.	SPEC.	
BLANK TAPE	V.T.V.M./ SINEWAVE GENERATOR	120 (mVrms)	

Note: 1. Before recording the sinewave, set the sinewave generator until the audio outputs (L) and (R) of AV1 are 400mVrms.

2-5-16. FM B.P.F. ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-33 (L) IC4501-48 (R)	VR4550	PLAYBACK	SINEWAVE 1.608MHz/ 200mVp-p (PK4003-8)
TAPE	M. EQ.	SPEC.	
NTSC RECORDED TAPE	OSCILLO-SCOPE/ SINEWAVE GENERATOR	Lch (IC4501-33)= Rch (IC4501-48)	

Note: 1. Disconnect P501 (from MAIN C.B.A. to HEAD AMP PACK C.B.A.).
2. The GND lead of oscilloscope must be connected to GND on HIFI AUDIO PACK C.B.A. to reduce the noise.
3. Supply the sinewave signal (1.608MHz/200mVp-p) to PK4003-8.
4. After this adjustment, connect P501.

TIMER SECTION

2-5-17. TIMER REFERENCE CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL7501	C7512	STOP	
TAPE	M. EQ.	SPEC.	
	UNIVERSAL COUNTER	7812.5+−0.015 (usec)	

SECTION 3
ABBREVIATIONS & BLOCK DIAGRAMS

3-1. ABBREVIATIONS

443NT [L]	4.43 NTSC Ⓛ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ
A. DEF [S]	AUDIO DEFEAT
A. DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBING Ⓗ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓗ
A. MUTE [H]	AUDIO MUTE Ⓗ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EE Ⓗ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ/NORMAL
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓗ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER (R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIX Ⓛ
BIL	BILINGUAL
BIL [L]	BILINGUAL Ⓛ
BIL. [H]	BILINGUAL Ⓗ
BIL/M1 [L]	BILINGUAL Ⓛ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIX Ⓗ
BS MON [H]	BS MONITOR Ⓗ
BS MONI [H]	BS MONITOR Ⓗ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓗ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITOR Ⓗ
BS/VTR [H]	BS/VTR Ⓗ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (−)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (−)
CINEM [L]	CINEMA Ⓛ
CINEMA [L]	CINEMA Ⓛ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOUR Ⓗ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [−]	CONTROL HEAD (−)
CTL [+]	CONTROL HEAD (+)
CTL [−]	CONTROL HEAD (−)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMMITER
CYL ET	CYLINDER TORQUE CONTROL
CYL GND	CYLINDER GND
D.F.M. REC [H]	DELAIED FM RECORDING Ⓗ
D. FM REC [L]	DELAIED FM RECORDING Ⓛ
D. GND	DIGITAL GND

D. REC [H]	DELAYED RECORDING Ⓗ	H. SYNC	HORIZONTAL SYNC
D4/S. LED	D4/STILL LED	H. AMP. SW	HEAD AMP SW PULSE
D4/STILLED	D4/STILL LED	H. P <R>	HEAD PHONE (R)
DAC [CLK]	TUNER DAC (CLOCK)	H. P <L>	HEAD PHONE (L)
DAC/FSCS	TUNER DAC/FS CHIP SELECT	H. P GND	HEAD PHONE GND
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ	H. P OUT [L]	HEAD PHONE OUTPUT (L)
DATA	DATA	H. P OUT [R]	HEAD PHONE OUTPUT (R)
DECODER [L]	DECODER (L)	H. SW	HEAD SW PULSE
DECODER [R]	DECODER (R)	HEAD PHONE [L]	HEAD PHONE (L)
DEW	DEW	HEAD PHONE [R]	HEAD PHONE (R)
DEW SNS	DEW SENSOR	HEAD SW	HEAD SW
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ	HEATER [+]	HEATER (+)
E. REC 5V	EXCEPT RECORDING 5V	HEATER [−]	HEATER (−)
EC	ERROR TORQUE CONTROL	HSS	HORIZONTAL SYNC SIGNAL
ECR	ERROR TORQUE CONTROL	HTR [+]	HEATER (+)
	REFERENCE VOLTAGE	HTR [−]	HEATER (−)
EDT TRIG [L]	EDIT TRIGGER Ⓛ	I RFE	REFERENCE CURRENT
EDIT [H]	EDIT Ⓗ	ICL	CONTROL AGC CIRCUIT
EE [H]	EE Ⓗ	IF	INTERMEDIATE FREQUENCY
EE [H]/INS [M]	EE Ⓗ/INSERT Ⓜ	IN SELA1	INPUT SELECT A1 POSITION
EE. VV. TR	EE/VV/TRICK PLAY	IN SELA2	INPUT SELECT A2 POSITION
EJECT. PO	EJECT POSITION	IN SELA3	INPUT SELECT A3 POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK	INS L/R [L]	INSERT Lch/Rch Ⓛ
ENV. SEL	ENVELOPE SELECT	INS. [H]	INSERT Ⓗ
ENVE. OUT	ENVELOPE OUTPUT	INSEL A1	INPUT SELECT A1 POSITION
ENVE. SEL	ENVELOPE SELECT	INSEL A2	INPUT SELECT A2 POSITION
ENV SELECT	ENVELOPE SELECT	INSERT	INSERT
EP [H]	LP Ⓗ	INSERT [H]	INSERT Ⓗ
EP/LP [H]	LP Ⓗ	IO CS	INPUT/OUTPUT CHIP SELECT
EP/LP/SP	LP/SP	JOG1	JOG1
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ	JOG S3 LED/FOWRD	JOG LED/FORWARD LED
EPROMCS	EPROM CHIP SELECT	JOG/F. LED	JOG LED/FORWARD LED
EX. REC 5V	EXCEPT RECORDING 5V	JSB [H]	JSB Ⓗ
FF/REW [L]	FIRST FORWARD/REWIND Ⓛ	JST. CLCK	JUST CLOCK
FG1 IN	FG1 PULSE INPUT	JST. CLK	JUST CLOCK
FG2 IN	FG2 PULSE INPUT	JST. CLOCK	JUST CLOCK
FILTER ADJUSTMEN	FILTER ADJUSTMENT	L. OUT	Lch OUTPUT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ	L. CH [H]	Lch Ⓗ
FLY ON [H]	FLYING ERASE E HEAD ON Ⓗ	L. CH [L]	Lch Ⓛ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ	LED (MAIN)	LED (MAIN)
FM MUT [H]	FM AUDIO MUTE Ⓗ	LED (STEREO)	LED (STEREO)
FM MUTE [H]	FM AUDIO MUTE Ⓗ	LED (SUB)	LED (SUB)
FM OUT [L]	FM OUTPUT (L)	LED CKL	LED SERIAL CLOCK
FM OUT [R]	FM OUTPUT (R)	LED CKS	LED SERIAL CLOCK
FM PACK OUT [L]	FM PACK OUTPUT (L)	LED DATA	LED SERIAL DATA
FM PACK OUT [R]	FM PACK OUTPUT (R)	LINE IN 1 [L]	LINE INPUT 1 (L)
FM/BS SEL [L]	FM/BS SELECT (L)	LINE IN 1 [R]	LINE INPUT 1 (R)
FM/BS SEL [R]	FM/BS SELECT (R)	LINE IN 2 [L]	LINE INPUT 2 (L)
FS. CLK	FS CLOCK	LINE IN 2 [R]	LINE INPUT 2 (R)
FUL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN V	LINE INPUT VIDEO
FULL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN [L]	LINE INPUT (L)
FULL. E. 12V	FULL ERASE 12V	LINE IN [R]	LINE INPUT (R)
GND [A]	GND (ANALOGUE)	LINE OUT [L]	LINE OUTPUT (L)
GND [TU]	GND (TUNER)	LINE OUT [R]	LINE OUTPUT (R)
GND/N. SW. 12V	GND/NON SW 12V	LP [H]	LP Ⓗ

LPTRI [L]	LP TRICK PLAY Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMAM INPUT
MES [H]	MESECAM Ⓗ
MESE [H]	MESECAM Ⓗ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓗ/BILIGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓗ
MIX [H]	MIX Ⓗ
MIX [H]/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINE	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MN. H/M. L	MONAURAL Ⓗ/MAIN Ⓛ
MN. H/MAI. L	MONAURAL Ⓗ/MAIN Ⓛ
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓗ
MONO [H]/MAIN [L]	MONAURAL Ⓗ/MAIN Ⓛ
MONO2 [L]	MONAURAL 2
MONO2/MESE [FM(L)]	MONAURAL 2/MESECAM (FM Ⓛ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDING
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓛ
NOL [H]	PAL Ⓗ/4.43 NTSC Ⓜ/3.58 NTSC Ⓛ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ
NORMAL [H]	NORMAL Ⓗ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT
P-OFF [H]	POWER OFF Ⓗ
P-OFF [L]	POWER OFF Ⓛ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓗ

P. OFF [L]	POWER OFF Ⓛ
PAL [H]	PAL Ⓗ
PAL [L]/NTSC [H]	PAL Ⓛ/NTSC Ⓗ
PB ADJ OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓗ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R. LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓗ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓗ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓗ
R. CH [L]	Rch Ⓛ
R. ST	RESET
R/S/F	REVERSE Ⓗ/STOP Ⓜ/FORWARD Ⓛ
RCH [H]	Rch Ⓗ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDING Ⓗ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUT Ⓛ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓗ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE (TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOROR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [−]	REVIEW MOTOR (−)
REV. M. GND	REVIEW MOTOR GND
RF. CHROMA	RF CHROMINANCE SIGNAL
RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S. TAB [L]	SAFETY TAB SW ON Ⓛ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓗ
SLNID [+]	SOLENOID (+)
SLNID [−]	SOLENOID (−)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓗ
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ/NORMAL Ⓗ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓗ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOP
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓗ
STEREO [L]	STEREO Ⓛ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL: ST	STOP1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2/S-TAB	STOP 2 POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓗ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE

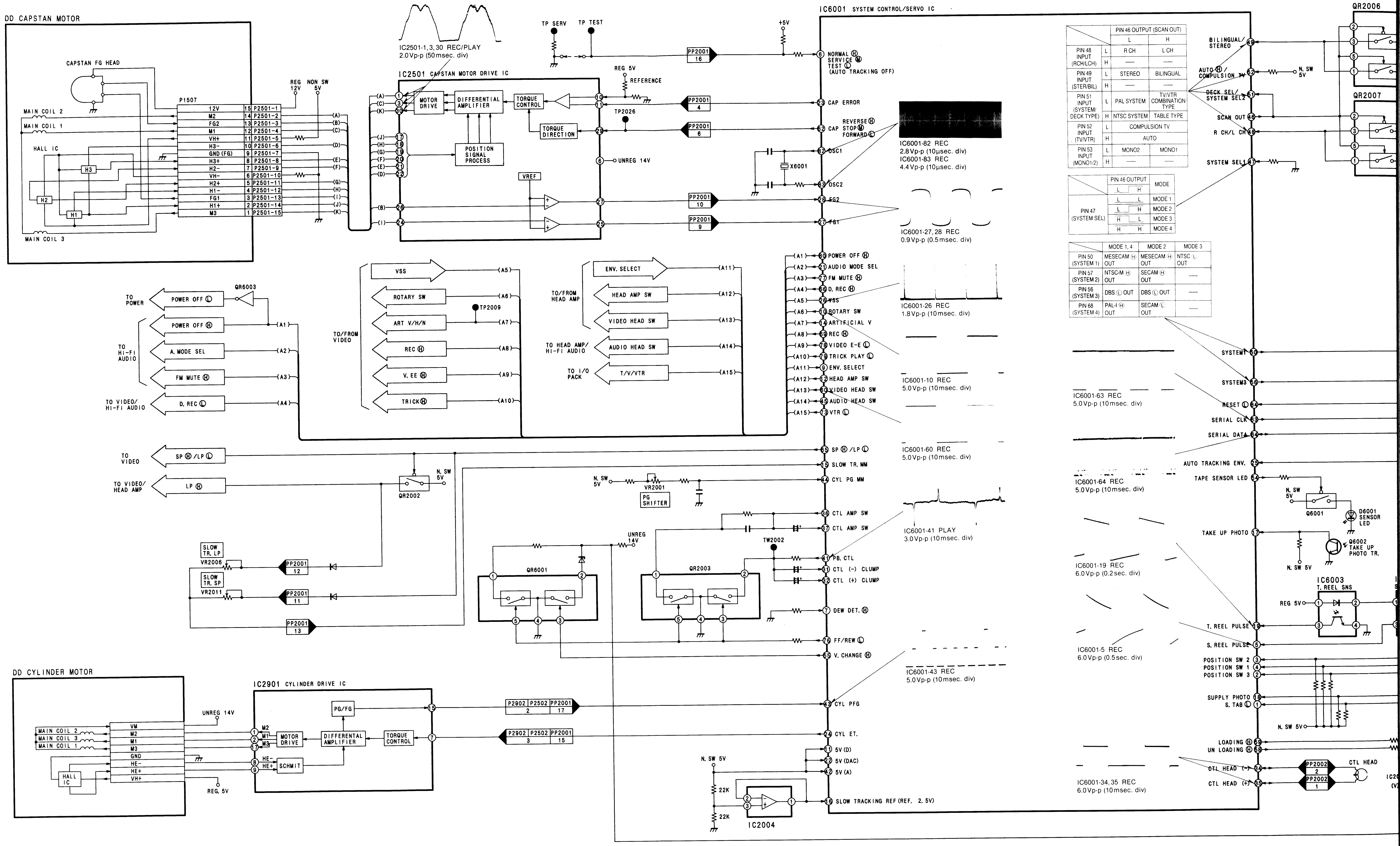
T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ/CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRIC PLAY Ⓛ
TRICK [L]	TRIC PLAY Ⓛ
TRK. ENV	AUTO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓗ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓗ
V. EE [L]	VIDEO EE Ⓛ
VCO REF	RERERENCE OSCILLATER
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓛ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓗ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

TRUTH TABLE

IC3904 INPUT									IC3904 OUTPUT								VIDEO OUTPUT RESULT				AUDIO OUTPUT RESULT							
POWER	AV2 SLCT	DEC SLCT	EE/VV	OSD ON	INPUT CH			AV2 PB	AV2 OUT SLCT		VTR IN SLCT		AV1 OUT SLCT	AV1 PB	RGB SW	FM INS	AV1 OUT	AV2 OUT	VTR IN	VTR OUT	AV1 OUT (L)	AV1 OUT (R)	AV2 OUT (L)	AV2 OUT (R)	AUDIO IN (L)	AUDIO IN (R)	AUDIO OUT (L)	AUDIO OUT (R)
⑥	④	①	⑦	⑪	②	⑧	⑨	③	⑯	⑰	⑱	⑲	⑫	⑬	⑭	⑮	(AV1-⑲)	(AV2-⑲)	(PP3901-3)	(PP3901-7)	(AV1-③)	(AV1-①)	(AV2-③)	(AV2-①)	(PP3902-9)	(PP3902-10)	(PP3902-6)	(PP3902-7)
OFF Ⓛ	----	----	----	----	--	--	--	L	L	L	L	L	L	L	L	L	AV2 IN	AV1 IN	TUNER	TUNER	AV2 IN (L)	AV2 IN (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
								H	L	L	L	L	L	H	H	L	AV2 IN	AV1 IN	TUNER	TUNER	AV2 IN (L)	AV2 IN (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
ON Ⓗ	VTR Ⓗ	----	EE Ⓗ	OFF Ⓛ	H	L	L	----	H	H	L	L	H	L	L	L	VTR OUT	VTR OUT	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	-----	-----	TUNER	TUNER
					L	L	L	----	H	H	L	L	H	L	L	L	VTR OUT	VTR OUT	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	-----	-----	TUNER	TUNER
					H	L	H	----	H	H	L	H	H	L	L	H	VTR OUT	VTR OUT	AV1 IN	AV1 IN	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)
					H	H	L	----	H	H	H	L	H	L	H	H	VTR OUT	VTR OUT	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
				ON Ⓗ	H	L	L	----	H	H	L	L	H	H	L	L	VTR OUT	VTR OUT	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	-----	-----	TUNER	TUNER
					L	L	L	----	H	H	L	L	H	H	L	L	VTR OUT	VTR OUT	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	-----	-----	TUNER	TUNER
					H	L	H	----	H	H	L	H	H	H	L	H	VTR OUT	VTR OUT	AV1 IN	AV1 IN	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)
					H	H	L	----	H	H	H	L	H	H	H	H	VTR OUT	VTR OUT	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
			VV Ⓛ	----	H	L	L	----	H	H	L	L	H	H	L	L	VTR OUT	VTR OUT	TUNER	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	-----	-----	PLAYBACK	PLAYBACK
					L	L	L	----	H	H	L	L	H	H	L	L	VTR OUT	VTR OUT	TUNER	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	-----	-----	PLAYBACK	PLAYBACK
					H	L	H	----	H	H	L	H	H	H	L	H	VTR OUT	VTR OUT	AV1 IN	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	PLAYBACK	PLAYBACK
					H	H	L	----	H	H	H	L	H	H	L	H	VTR OUT	VTR OUT	AV2 IN	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AUDIO OUT (L)	AUDIO OUT (R)	AV2 IN (L)	AV2 IN (R)	PLAYBACK	PLAYBACK
	DECODER Ⓛ	TV Ⓗ	----	OFF Ⓛ	H	L	L	L	L	L	L	L	H	L	L	L	VTR OUT	AV1 IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
								H	L	L	L	L	L	H	H	L	AV2 IN	AV1 IN	TUNER	TUNER	AV2 IN (L)	AV2 IN (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
					L	L	L	L	L	H	L	L	H	L	L	L	VTR OUT	TUNER IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	-----	-----	TUNER	TUNER
								H	L	H	H	L	H	L	L	H	VTR OUT	TUNER IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	L	H	L	L	L	L	H	H	L	L	H	VTR OUT	AV1 IN	AV1 IN	AV1 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)
								H	L	L	H	L	L	H	H	H	AV2 IN	AV1 IN	AV2 IN	AV2 IN	AV2 IN (L)	AV2 IN (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	H	L	L	L	L	H	L	H	L	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
								H	L	L	H	L	L	H	H	H	AV2 IN	AV1 IN	AV2 IN	AV2 IN	AV2 IN (L)	AV2 IN (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
				ON Ⓗ	H	L	L	L	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
								H	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
					L	L	L	L	L	H	L	L	H	H	L	L	VTR OUT	TUNER IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	-----	-----	TUNER	TUNER
								H	L	H	H	L	H	H	H	H	VTR OUT	TUNER IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	L	H	L	L	L	L	H	H	H	L	H	VTR OUT	AV1 IN	AV1 IN	AV1 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)
								H	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	H	L	L	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
								H	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
		VTR Ⓛ	EE Ⓗ	OFF Ⓛ	H	L	L	L	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
								H	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
					L	L	L	L	L	H	L	L	H	H	L	L	VTR OUT	TUNER IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	-----	-----	TUNER	TUNER
								H	L	H	H	L	H	H	H	H	VTR OUT	TUNER IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	L	H	L	L	L	L	H	H	H	L	H	VTR OUT	AV1 IN	AV1 IN	AV1 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)
								H	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	H	L	L	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
								H	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
				ON Ⓗ	H	L	L	L	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
								H	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	TUNER	TUNER
					L	L	L	L	L	H	L	L	H	H	L	L	VTR OUT	TUNER IN	TUNER	TUNER	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R	-----	-----	TUNER	TUNER
								H	L	H	H	L	H	H	H	H	VTR OUT	TUNER IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	L	H	L	L	L	L	H	H	H	L	H	VTR OUT	AV1 IN	AV1 IN	AV1 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)
								H	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
					H	H	L	L	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
								H	L	L	H	L	H	H	H	H	VTR OUT	AV1 IN	AV2 IN	AV2 IN	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	AV2 IN (L)	AV2 IN (R)
			VV Ⓛ	----	H	L	L	L	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	PLAYBACK	PLAYBACK
								H	L	L	L	L	H	H	L	L	VTR OUT	AV1 IN	TUNER	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	-----	-----	PLAYBACK	PLAYBACK
					L	L	L	L	L	H	L	L	H	H	L	L	VTR OUT	TUNER IN	TUNER	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	-----	-----	PLAYBACK	PLAYBACK
								H	L	H	H	L	H	H	L	H	VTR OUT	TUNER IN	AV2 IN	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	TUN A IN (L)	TUN A IN (R)	AV2 IN (L)	AV2 IN (R)	PLAYBACK	PLAYBACK
					H	L	H	L	L	L	L	H	H	H	L	H	VTR OUT	AV1 IN	AV1 IN	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV1 IN (L)	AV1 IN (R)	PLAYBACK	PLAYBACK
								H	L	L	H	L	H	H	L	H	VTR OUT	AV1 IN	AV2 IN	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	PLAYBACK	PLAYBACK
					H	H	L	L	L	L	H	L	H	H	L	H	VTR OUT	AV1 IN	AV2 IN	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	PLAYBACK	PLAYBACK
								H	L	L	H	L	H	H	L	H	VTR OUT	AV1 IN	AV2 IN	PLAYBACK	AUDIO OUT (L)	AUDIO OUT (R)	AV1 IN (L)	AV1 IN (R)	AV2 IN (L)	AV2 IN (R)	PLAYBACK	PLAYBACK

INPUT CH SELECT			INPUT CH
DBS/CANAL	INPUT SLCT B	INPUT SLCT A	
②	⑧	⑨	
H	L	L	NORMAL TUNER
L	L	L	DBS/C+ TUNER
H	L	H	AV1
H	H	L	AV2

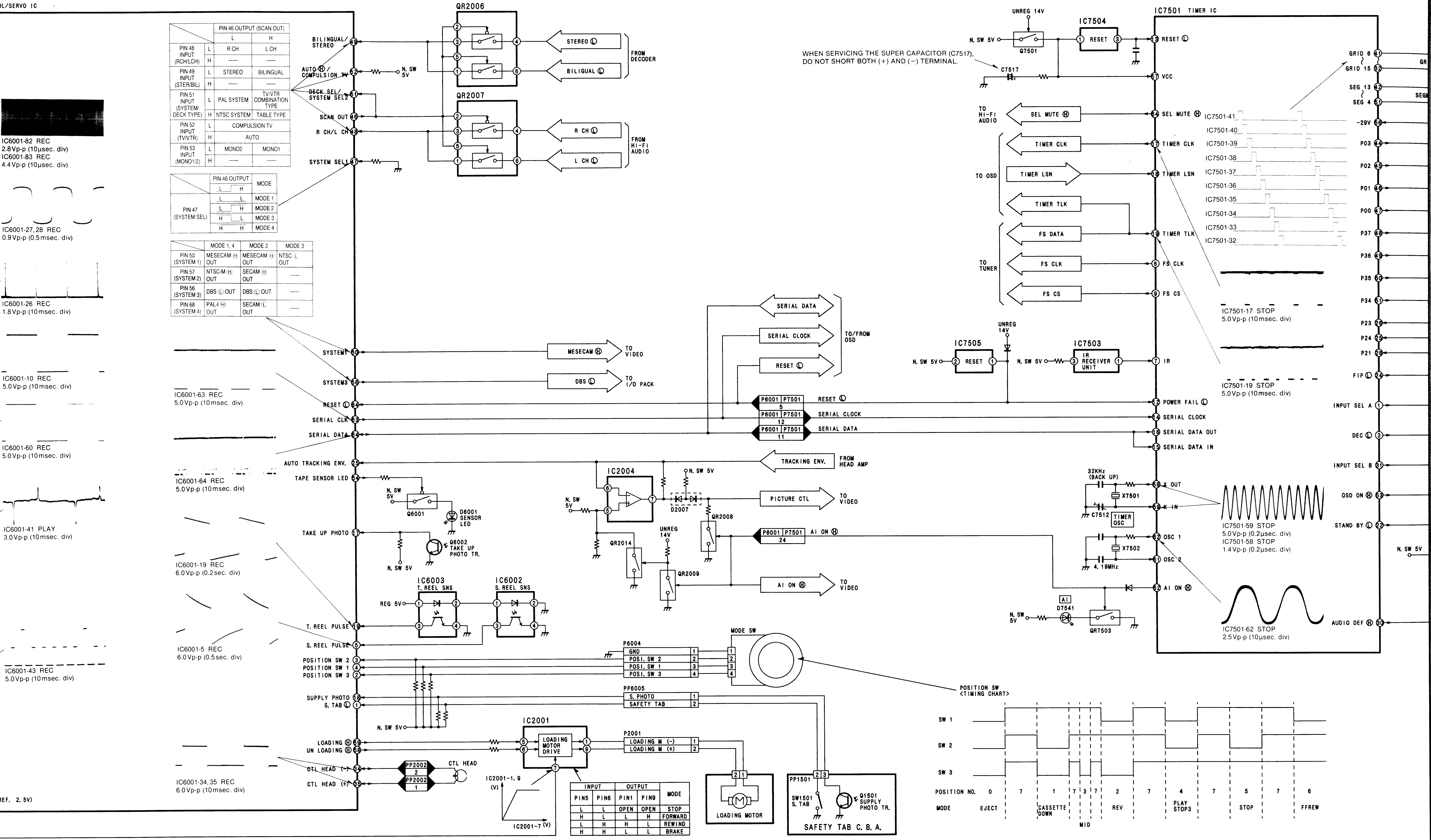
3-2. SYSTEM CONTROL & SERVO BLOCK DIAGRAM


DD CAPSTAN MOTOR
CAPSTAN FG HEAD
MAIN COIL 2
MAIN COIL 1
HALL IC
H3
H2
H1
MAIN COIL 3
P1507
12V
M2
FG2
M1
VH+
H3-
GND (FG)
H3+
H2-
VH-
H2+
H1-
FG1
H1+
M3
P2501-1
P2501-2
P2501-3
P2501-4
P2501-5
P2501-6
P2501-7
P2501-8
P2501-9
P2501-10
P2501-11
P2501-12
P2501-13
P2501-14
P2501-15
REG 12V
NON SW 5V
IC2501-1, 3, 30 REC/PLAY
2.0Vp-p (50msec. div)
IC2501 CAPSTAN MOTOR DRIVE IC
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
TORQUE DIRECTION
POSITION SIGNAL PROCESS
VREF
UNREG 14V
TP SERV
TP TEST
REG 5V
REFERENCE
TP2026
+5V
PP2001 16
PP2001 4
PP2001 6
PP2001 10
PP2001 9
IC6001 SYSTEM CONTROL/SERVO IC
NORMAL Ⓗ
SERVICE Ⓜ
TEST Ⓛ
(AUTO TRACKING OFF)
CAP ERROR
CAP
REVERSE Ⓗ
STOP Ⓜ
FORWARD Ⓛ
OSC1
X6001
OSC2
FG2
FG1
IC6001-82 REC
2.8Vp-p (10μsec. div)
IC6001-83 REC
4.4Vp-p (10μsec. div)
IC6001-27, 28 REC
0.9Vp-p (0.5msec. div)
POWER OFF Ⓗ
AUDIO MODE SEL
FM MUTE Ⓗ
D. REC Ⓗ
VSS
ROTARY SW
ARTIFICIAL V
REC Ⓗ
VIDEO E-E Ⓛ
TRICK PLAY Ⓛ
ENV. SELECT
HEAD AMP SW
VIDEO HEAD SW
AUDIO HEAD SW
VTR Ⓛ
IC6001-26 REC
1.8Vp-p (10msec. div)
IC6001-10 REC
5.0Vp-p (10msec. div)
IC6001-60 REC
5.0Vp-p (10msec. div)
TO POWER
QR6003
POWER OFF Ⓛ
POWER OFF Ⓗ
TO Hi-Fi AUDIO
A. MODE SEL
FM MUTE Ⓗ
TO VIDEO/ Hi-Fi AUDIO
D. REC Ⓛ
TO/FROM VIDEO
VSS
ROTARY SW
TP2009
ART V/H/N
REC Ⓗ
V. EE Ⓗ
TRICK Ⓗ
TO/FROM HEAD AMP
ENV. SELECT
HEAD AMP SW
VIDEO HEAD SW
TO HEAD AMP/ Hi-Fi AUDIO
AUDIO HEAD SW
TO I/O PACK
T/V/VTR
TO VIDEO
SP Ⓗ/LP Ⓛ
TO VIDEO/ HEAD AMP
LP Ⓗ
QR2002
N. SW 5V
SP Ⓗ/LP Ⓛ
SLOW TR. MM
CYL PG MM
VR2001
PG SHIFTER
CTL AMP SW
CTL AMP SW
UNREG 14V
TW2002
PB. CTL
CTL (-) CLUMP
CTL (+) CLUMP
DEW DET. Ⓗ
FF/REW Ⓛ
V. CHANGE Ⓗ
IC6001-41 PLAY
3.0Vp-p (10msec. div)
IC6001-43 REC
5.0Vp-p (10msec. div)
SLOW TR. LP
VR2006
PP2001 12
SLOW TR. SP
VR2011
PP2001 11
PP2001 13
QR6001
QR2003
DD CYLINDER MOTOR
MAIN COIL 2
MAIN COIL 3
MAIN COIL 1
HALL IC
VM
M2
M1
M3
GND
HE-
HE+
VH+
REG. 5V
UNREG 14V
IC2901 CYLINDER DRIVE IC
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
PG/FG
SCHMIT
P2902 P2502 PP2001 2 17
P2902 P2502 PP2001 3 15
CYL PFG
CYL ET.
5V (D)
5V (DAC)
5V (A)
N. SW 5V
22K
22K
IC2004
SLOW TRACKING REF (REF. 2.5V)
QR2006
QR2007
BILINGUAL/ STEREO
AUTO Ⓗ/ COMPULSION TV
DECK SEL/ SYSTEM SEL2
SCAN OUT
R CH/L CH
SYSTEM SEL1
SYSTEM1
SYSTEM3
RESET Ⓛ
SERIAL CLK
SERIAL DATA
AUTO TRACKING ENV.
TAPE SENSOR LED
IC6001-63 REC
5.0Vp-p (10msec. div)
IC6001-64 REC
5.0Vp-p (10msec. div)
Q6001
D6001 SENSOR LED
TAKE UP PHOTO
Q6002 TAKE UP PHOTO TR.
IC6001-19 REC
6.0Vp-p (0.2sec. div)
IC6003 T. REEL SNS
REG 5V
T. REEL PULSE
S. REEL PULSE
IC6001-5 REC
6.0Vp-p (0.5sec. div)
POSITION SW 2
POSITION SW 1
POSITION SW 3
SUPPLY PHOTO
S. TAB Ⓛ
LOADING Ⓗ
UN LOADING Ⓗ
CTL HEAD (-)
CTL HEAD (+)
PP2002 2
PP2002 1
CTL HEAD
IC6001-34, 35 REC
6.0Vp-p (10msec. div)

		PIN 46 OUTPUT (SCAN OUT)	
		L	H
PIN 48 INPUT (RCH/LCH)	L	R CH	L CH
	H	—	—
PIN 49 INPUT (STER/BIL)	L	STEREO	BILINGUAL
	H	—	—
PIN 51 INPUT (SYSTEM/ DECK TYPE)	L	PAL SYSTEM	TV/VTR COMBINATION TYPE
	H	NTSC SYSTEM	TABLE TYPE
PIN 52 INPUT (TV/VTR)	L	COMPULSION TV	
	H	AUTO	
PIN 53 INPUT (MONO1/2)	L	MONO2	MONO1
	H	—	—

	PIN 46 OUTPUT	MODE
	L H	
PIN 47 (SYSTEM SEL)	L L	MODE 1
	L H	MODE 2
	H L	MODE 3
	H H	MODE 4

	MODE 1, 4	MODE 2	MODE 3
PIN 50 (SYSTEM 1)	MESECAM Ⓗ OUT	MESECAM Ⓗ OUT	NTSC Ⓛ OUT
PIN 57 (SYSTEM 2)	NTSC-M Ⓗ OUT	SECAM Ⓗ OUT	—
PIN 56 (SYSTEM 3)	DBS Ⓛ OUT	DBS Ⓛ OUT	—
PIN 68 (SYSTEM 4)	PAL-I Ⓗ OUT	SECAM Ⓛ OUT	—


OL/SERVO IC
IC6001-82 REC
2.8Vp-p (10μsec. div)
IC6001-83 REC
4.4Vp-p (10μsec. div)
IC6001-27, 28 REC
0.9Vp-p (0.5msec. div)
IC6001-26 REC
1.8Vp-p (10msec. div)
IC6001-10 REC
5.0Vp-p (10msec. div)
IC6001-60 REC
5.0Vp-p (10msec. div)
IC6001-41 PLAY
3.0Vp-p (10msec. div)
IC6001-43 REC
5.0Vp-p (10msec. div)
REF, 2.5V)
IC6001-63 REC
5.0Vp-p (10msec. div)
IC6001-64 REC
5.0Vp-p (10msec. div)
IC6001-19 REC
6.0Vp-p (0.2sec. div)
IC6001-5 REC
6.0Vp-p (0.5sec. div)
IC6001-34, 35 REC
6.0Vp-p (10msec. div)
BILINGUAL/STEREO
AUTO Ⓗ / COMPULSION TV
DECK SEL/ SYSTEM SEL2
SCAN OUT
R CH/L CH
SYSTEM SEL1
N. SW 5V
QR2006
QR2007
STEREO Ⓛ
BILIGUAL Ⓛ
FROM DECODER
R CH Ⓛ
L CH Ⓛ
FROM HI-FI AUDIO
SYSTEM1
SYSTEM3
MESECAM Ⓗ
TO VIDEO
DBS Ⓛ
TO I/O PACK
SERIAL DATA
SERIAL CLOCK
RESET Ⓛ
TO/FROM OSD
RESET Ⓛ
SERIAL CLK
SERIAL DATA
P6001 P7501 5
P6001 P7501 12
P6001 P7501 11
AUTO TRACKING ENV.
TRACKING ENV.
FROM HEAD AMP
TAPE SENSOR LED
Q6001
D6001 SENSOR LED
IC2004
N. SW 5V
D2007
PICTURE CTL
TO VIDEO
QR2008
TAKE UP PHOTO
Q6002 TAKE UP PHOTO TR.
QR2014
UNREG 14V
QR2009
P6001 P7501 24
AI ON Ⓗ
TO VIDEO
IC6003 T. REEL SNS
IC6002 S. REEL SNS
REG 5V
T. REEL PULSE
S. REEL PULSE
MODE SW
P6004
GND
POSI. SW 2
POSI. SW 1
POSI. SW 3
POSITION SW 2
POSITION SW 1
POSITION SW 3
PP6005
S. PHOTO
SAFETY TAB
SUPPLY PHOTO
S. TAB Ⓛ
IC2001
LOADING MOTOR DRIVE
LOADING Ⓗ
UN LOADING Ⓗ
P2001
LOADING M (−)
LOADING M (+)
LOADING MOTOR
CTL HEAD
PP2002 2
PP2002 1
CTL HEAD (−)
CTL HEAD (+)
IC2001-1, 9 (V)
IC2001-7 (V)
PP1501
SW1501 S. TAB
Q1501 SUPPLY PHOTO TR.
SAFETY TAB C. B. A.
UNREG 14V
Q7501
IC7504
RESET
IC7501 TIMER IC
RESET Ⓛ
C7517
VCC
TO HI-FI AUDIO
SEL MUTE Ⓗ
TO OSD
TIMER CLK
TIMER LSN
TIMER TLK
TO TUNER
FS DATA
FS CLK
FS CS
IC7505
IC7503
IR RECEIVER UNIT
IR
POWER FAIL Ⓛ
SERIAL CLOCK
SERIAL DATA OUT
SERIAL DATA IN
32KHz (BACK UP)
X7501
C7512
TIMER OSC
X OUT
X IN
X7502
4. 19MHz
OSC 1
OSC 2
AI ON Ⓗ
AI
D7541
QR7503
GRID 6
GRID 15
SEG 13
SEG 4
−29V
P03
P02
P01
P00
P37
P36
P35
P34
P23
P24
P21
FIP Ⓛ
INPUT SEL A
DEC Ⓛ
INPUT SEL B
OSD ON Ⓗ
STAND BY Ⓛ
AUDIO DEF Ⓗ
N. SW 5V
IC7501-41
IC7501-40
IC7501-39
IC7501-38
IC7501-37
IC7501-36
IC7501-35
IC7501-34
IC7501-33
IC7501-32
IC7501-17 STOP
5.0Vp-p (10msec. div)
IC7501-19 STOP
5.0Vp-p (10msec. div)
IC7501-59 STOP
5.0Vp-p (0.2μsec. div)
IC7501-58 STOP
1.4Vp-p (0.2μsec. div)
IC7501-62 STOP
2.5Vp-p (10μsec. div)
POSITION SW <TIMING CHART>
SW 1
SW 2
SW 3
POSITION NO. 0 7 1 7 3 7 2 7 4 7 5 7 6
MODE EJECT CASSETTE DOWN MID REV PLAY STOP3 STOP FFREW

WHEN SERVICING THE SUPER CAPACITOR (C7517), DO NOT SHORT BOTH (+) AND (−) TERMINAL.

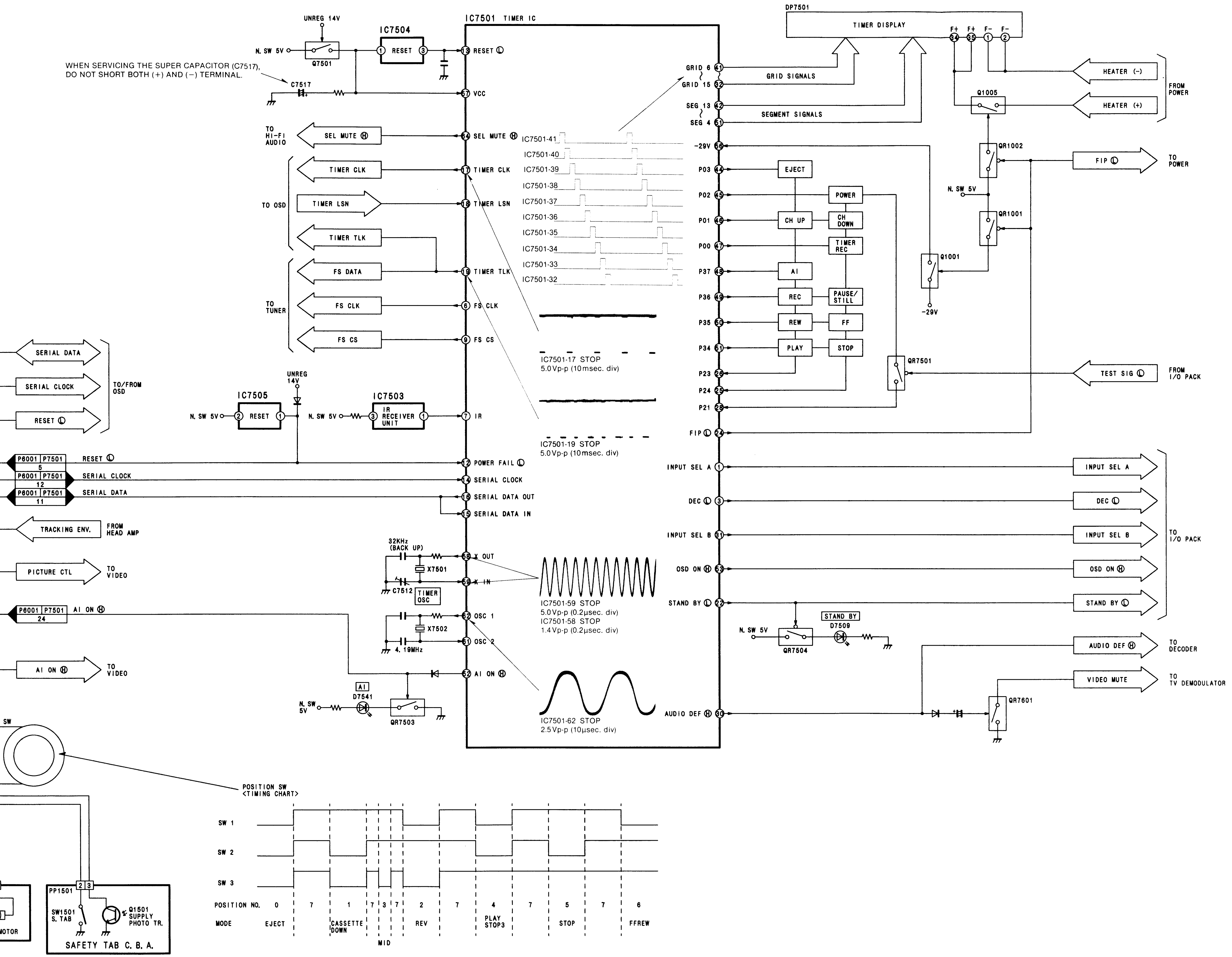
		PIN 46 OUTPUT (SCAN OUT)	
		L	H
PIN 48 INPUT (RCH/LCH)	L	R CH	L CH
	H	—	—
PIN 49 INPUT (STER/BIL)	L	STEREO	BILINGUAL
	H	—	—
PIN 51 INPUT (SYSTEM/ DECK TYPE)	L	PAL SYSTEM	TV/VTR COMBINATION TYPE
	H	NTSC SYSTEM	TABLE TYPE
PIN 52 INPUT (TV/VTR)	L	COMPULSION TV	
	H	AUTO	
PIN 53 INPUT (MONO1/2)	L	MONO2	MONO1
	H	—	—

	PIN 46 OUTPUT	MODE
	L H	
PIN 47 (SYSTEM SEL)	L L	MODE 1
	L H	MODE 2
	H L	MODE 3
	H H	MODE 4

	MODE 1, 4	MODE 2	MODE 3
PIN 50 (SYSTEM 1)	MESECAM Ⓗ OUT	MESECAM Ⓗ OUT	NTSC Ⓛ OUT
PIN 57 (SYSTEM 2)	NTSC-M Ⓗ OUT	SECAM Ⓗ OUT	—
PIN 56 (SYSTEM 3)	DBS Ⓛ OUT	DBS Ⓛ OUT	—
PIN 68 (SYSTEM 4)	PAL-I Ⓗ OUT	SECAM Ⓛ OUT	—

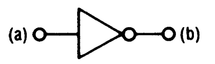
INPUT		OUTPUT		MODE
PIN5	PIN6	PIN1	PIN9	
L	L	OPEN	OPEN	STOP
H	L	L	H	FORWARD
L	H	H	L	REWIND
H	H	L	L	BRAKE

WHEN SERVICING THE SUPER CAPACITOR (C7517), DO NOT SHORT BOTH (+) AND (−) TERMINAL.


IC7501 TIMER IC
UNREG 14V
N. SW 5V
Q7501
IC7504
RESET
C7517
RESET Ⓛ
VCC
TO HI-FI AUDIO
SEL MUTE Ⓗ
TIMER CLK
TIMER LSN
TIMER TLK
TO OSD
FS DATA
FS CLK
FS CS
TO TUNER
SERIAL DATA
SERIAL CLOCK
RESET Ⓛ
TO/FROM OSD
IC7505
IC7503
IR RECEIVER UNIT
IR
POWER FAIL Ⓛ
P6001 P7501
SERIAL CLOCK
SERIAL DATA OUT
SERIAL DATA IN
TRACKING ENV.
FROM HEAD AMP
PICTURE CTL
TO VIDEO
AI ON Ⓗ
32KHz (BACK UP)
X OUT
X IN
X7501
C7512
TIMER OSC
OSC 1
OSC 2
X7502
4.19MHz
D7541
QR7503
IC7501-41
IC7501-40
IC7501-39
IC7501-38
IC7501-37
IC7501-36
IC7501-35
IC7501-34
IC7501-33
IC7501-32
IC7501-17 STOP
5.0Vp-p (10msec. div)
IC7501-19 STOP
5.0Vp-p (10msec. div)
IC7501-59 STOP
5.0Vp-p (0.2µsec. div)
IC7501-58 STOP
1.4Vp-p (0.2µsec. div)
IC7501-62 STOP
2.5Vp-p (10µsec. div)
DP7501
TIMER DISPLAY
F+ F+ F- F-
GRID 6
GRID 15
SEG 13
SEG 4
GRID SIGNALS
SEGMENT SIGNALS
HEATER (−)
HEATER (+)
FROM POWER
Q1005
QR1002
QR1001
Q1001
FIP Ⓛ
TO POWER
-29V
P03
P02
P01
P00
P37
P36
P35
P34
P23
P24
P21
EJECT
POWER
CH UP
CH DOWN
TIMER REC
AI
REC
PAUSE/STILL
REW
FF
PLAY
STOP
QR7501
TEST SIG Ⓛ
FROM I/O PACK
FIP Ⓛ
INPUT SEL A
DEC Ⓛ
INPUT SEL B
OSD ON Ⓗ
STAND BY Ⓛ
TO I/O PACK
QR7504
STAND BY
D7509
AUDIO DEF Ⓗ
TO DECODER
VIDEO MUTE
TO TV DEMODULATOR
QR7601
SW
POSITION SW <TIMING CHART>
SW 1
SW 2
SW 3
POSITION NO.
0 7 1 7 3 7 2 7 4 7 5 7 6
MODE
EJECT
CASSETTE DOWN
MID
REV
PLAY STOP3
STOP
FFREW
PP1501
SW1501 S. TAB
Q1501 SUPPLY PHOTO TR.
SAFETY TAB C. B. A.
MOTOR

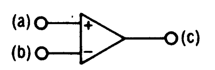
SYMBOL	TRUTH VALUE TABLE

INVERTER



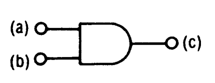
IN	(a)	H	L
OUT	(b)	L	H

COMPARTOR



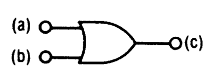
IN	(a) (b)	(a)>(b)	(a)<(b)
OUT	(c)	H	L

AND CIRCUIT



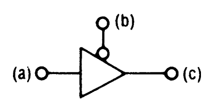
IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	L	L	H

OR CIRCUIT



IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	H	H	H

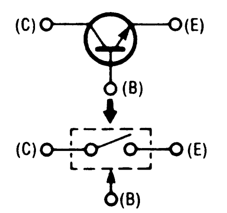
THREE STATES BUFFER



IN	(a)	H	L	H or L
	(b)	L	L	H
OUT	(c)	H	L	※

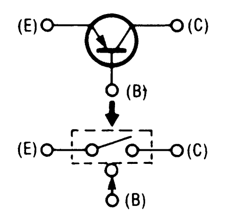
※ High Impedance

TR. SW (NPN TYPE)



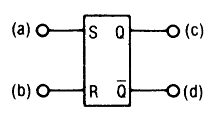
BASE	H	L
TR. SW	ON	OFF

TR. SW (PNP TYPE)



BASE	H	L
TR. SW	OFF	ON

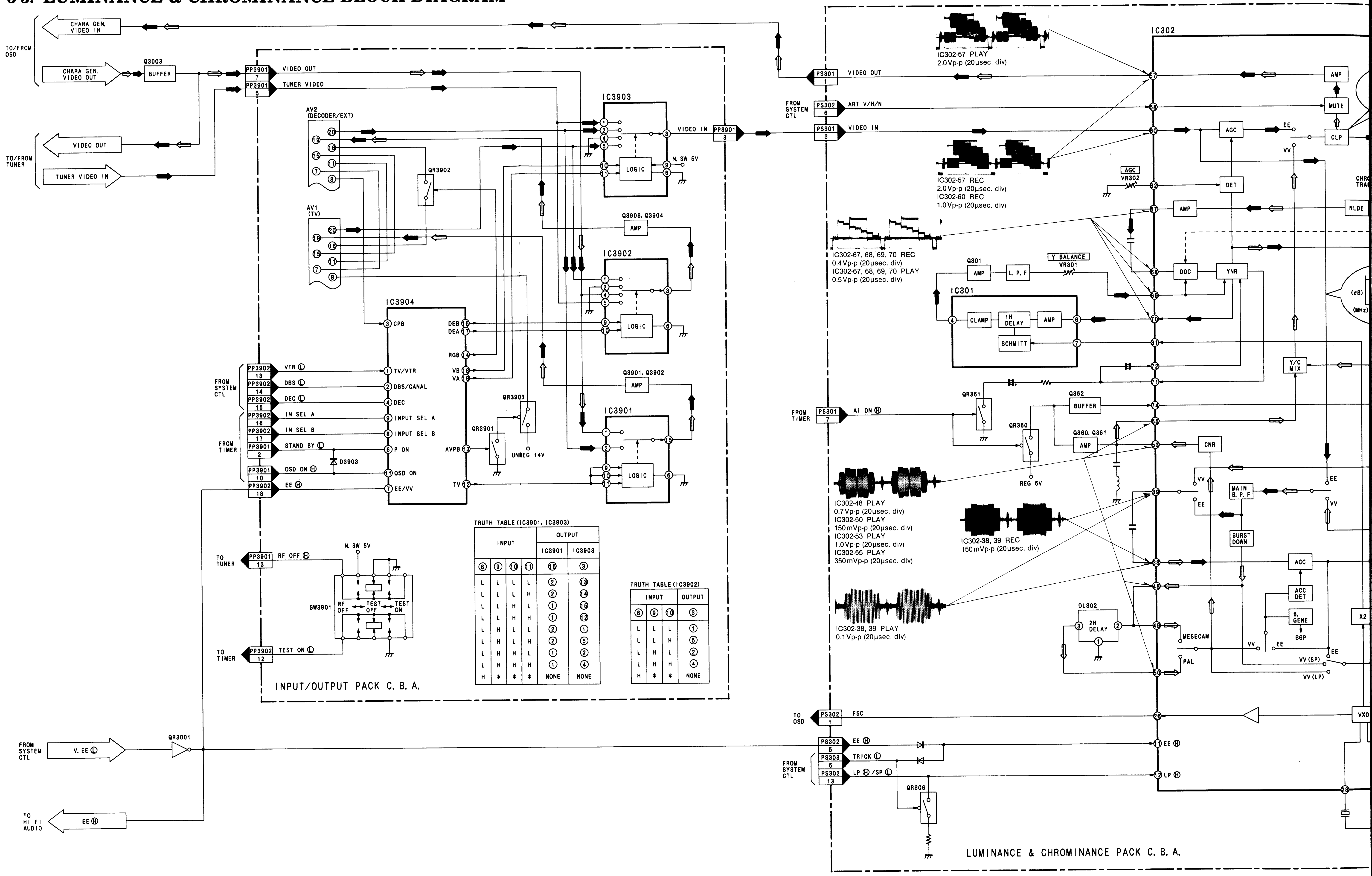
R-S TYPE FLIP-FLOP



IN	(a)	L	L	⎍
	(b)	L	⎍	L
OUT	(c)	※	L	H
	(d)	◆	H	L

※ Initial condition is maintained.
◆ Initial condition is reversed.

3-3. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

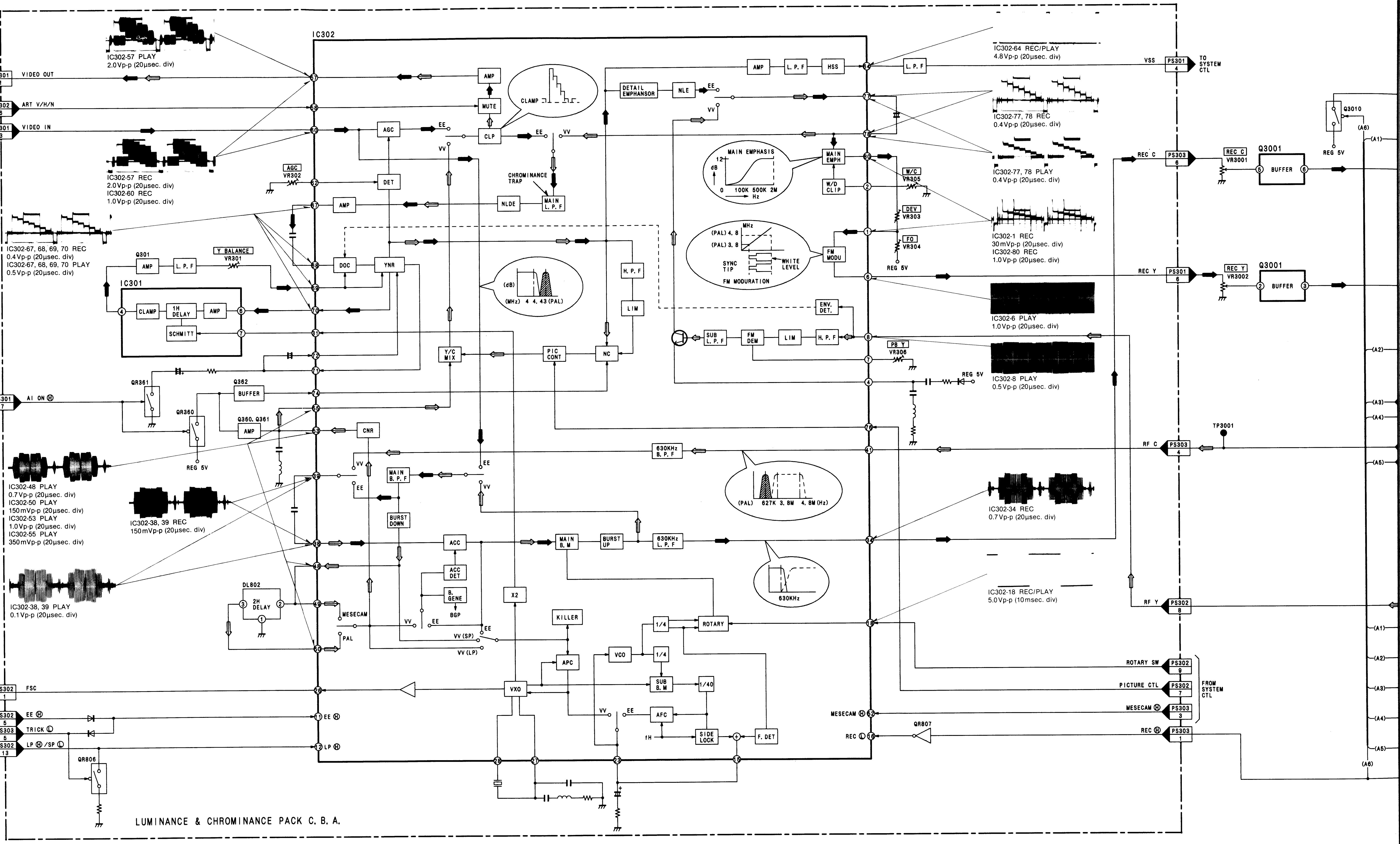

TO/FROM OSD
CHARA GEN. VIDEO IN
CHARA GEN. VIDEO OUT
Q3003
BUFFER
TO/FROM TUNER
VIDEO OUT
TUNER VIDEO IN
PP3901 7
PP3901 5
VIDEO OUT
TUNER VIDEO
AV2 (DECODER/EXT)
AV1 (TV)
QR3902
IC3903
IC3902
IC3901
IC3904
LOGIC
VIDEO IN
PP3901 3
N. SW 5V
Q3903, Q3904
AMP
Q3901, Q3902
CPB
DEB
DEA
RGB
VB
VA
AVPB
TV
FROM SYSTEM CTL
FROM TIMER
PP3902 13
VTR Ⓛ
PP3902 14
DBS Ⓛ
PP3902 15
DEC Ⓛ
PP3902 16
IN SEL A
PP3902 17
IN SEL B
PP3901 2
STAND BY Ⓛ
PP3901 10
OSD ON Ⓗ
PP3902 18
EE Ⓗ
TV/VTR
DBS/CANAL
DEC
INPUT SEL A
INPUT SEL B
P ON
OSD ON
EE/VV
D3903
QR3903
QR3901
UNREG 14V
TO TUNER
PP3901 13
RF OFF Ⓗ
N. SW 5V
SW3901
RF OFF
TEST OFF
TEST ON
TO TIMER
PP3902 12
TEST ON Ⓛ
INPUT/OUTPUT PACK C. B. A.
FROM SYSTEM CTL
V. EE Ⓛ
QR3001
TO HI-FI AUDIO
EE Ⓗ
IC302
PS301 1
VIDEO OUT
FROM SYSTEM CTL
PS302 6
ART V/H/N
PS301 3
VIDEO IN
IC302-57 PLAY
2.0Vp-p (20μsec. div)
IC302-57 REC
2.0Vp-p (20μsec. div)
IC302-60 REC
1.0Vp-p (20μsec. div)
IC302-67, 68, 69, 70 REC
0.4Vp-p (20μsec. div)
IC302-67, 68, 69, 70 PLAY
0.5Vp-p (20μsec. div)
AMP
MUTE
AGC
CLP
EE
VV
DET
AGC
VR302
AMP
NLDE
CHRO TRA
Q301
AMP
L. P. F
Y BALANCE
VR301
IC301
CLAMP
1H DELAY
AMP
SCHMITT
DOC
YNR
(dB)
(MHz)
Y/C MIX
FROM TIMER
PS301 7
AI ON Ⓗ
QR361
Q362
BUFFER
QR360
Q360, Q361
AMP
REG 5V
CNR
MAIN B. P. F
BURST DOWN
ACC
ACC DET
B. GENE
BGP
X2
IC302-48 PLAY
0.7Vp-p (20μsec. div)
IC302-50 PLAY
150mVp-p (20μsec. div)
IC302-53 PLAY
1.0Vp-p (20μsec. div)
IC302-55 PLAY
350mVp-p (20μsec. div)
IC302-38, 39 REC
150mVp-p (20μsec. div)
IC302-38, 39 PLAY
0.1Vp-p (20μsec. div)
DL802
2H DELAY
MESECAM
PAL
VV (SP)
VV (LP)
TO OSD
PS302 1
FSC
VXO
PS302 5
EE Ⓗ
PS303 5
TRICK Ⓛ
PS302 13
LP Ⓗ/SP Ⓛ
EE Ⓗ
LP Ⓗ
QR806
LUMINANCE & CHROMINANCE PACK C. B. A.

TRUTH TABLE (IC3901, IC3903)

INPUT				OUTPUT	
				IC3901	IC3903
⑥	⑨	⑩	⑪	⑮	③
L	L	L	L	②	⑬
L	L	L	H	②	⑭
L	L	H	L	①	⑮
L	L	H	H	①	⑫
L	H	L	L	②	①
L	H	L	H	②	⑤
L	H	H	L	①	②
L	H	H	H	①	④
H	*	*	*	NONE	NONE

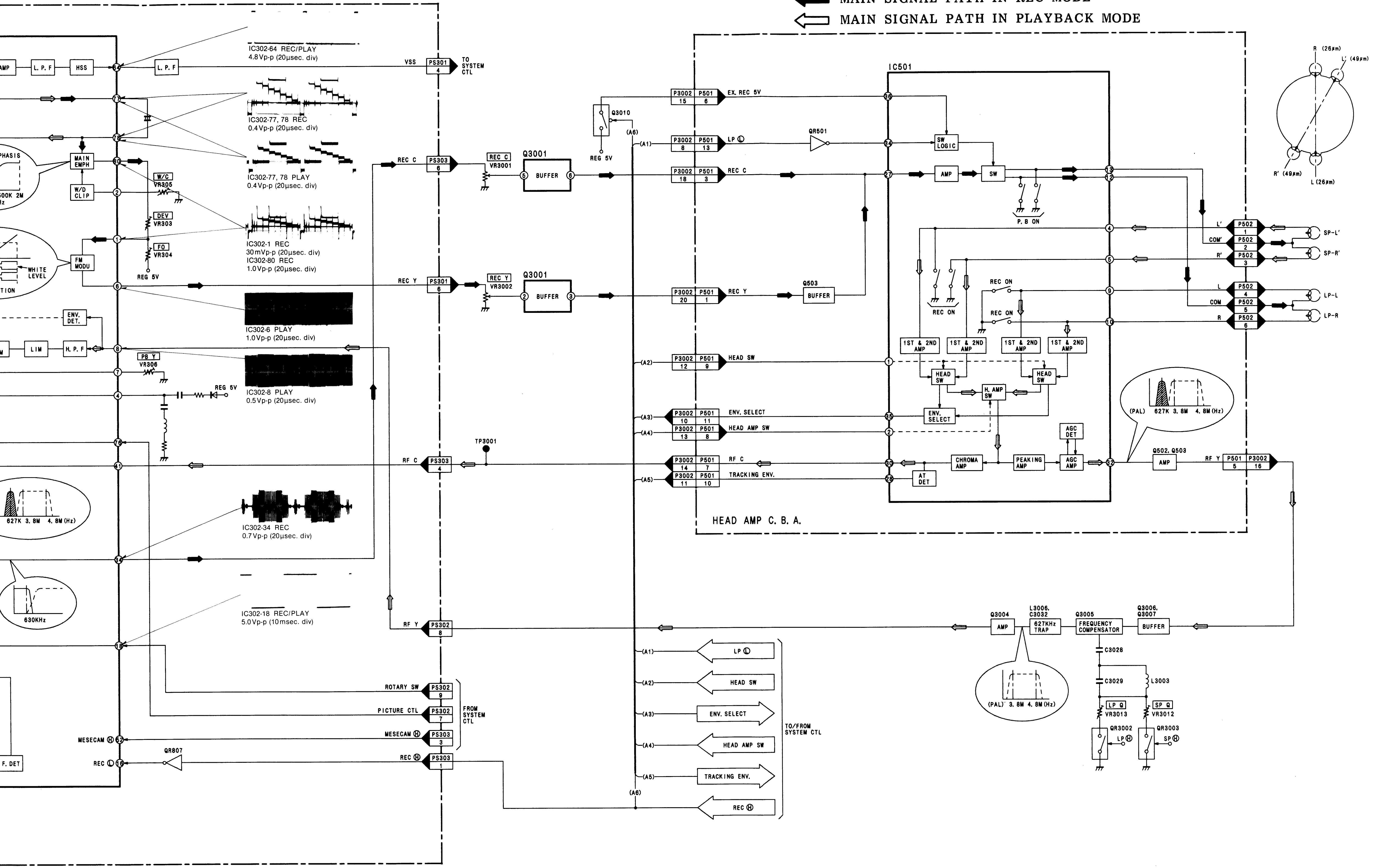
TRUTH TABLE (IC3902)

INPUT			OUTPUT
⑥	⑨	⑩	③
L	L	L	①
L	L	H	⑤
L	H	L	②
L	H	H	④
H	*	*	NONE


IC302
IC302-57 PLAY
2.0Vp-p (20μsec. div)
VIDEO OUT
ART V/H/N
VIDEO IN
IC302-57 REC
2.0Vp-p (20μsec. div)
IC302-60 REC
1.0Vp-p (20μsec. div)
AGC
VR302
IC302-67, 68, 69, 70 REC
0.4Vp-p (20μsec. div)
IC302-67, 68, 69, 70 PLAY
0.5Vp-p (20μsec. div)
Q301
AMP
L. P. F
Y BALANCE
VR301
IC301
CLAMP
1H DELAY
AMP
SCHMITT
QR361
Q362
BUFFER
AI ON Ⓗ
QR360
Q360, Q361
AMP
REG 5V
IC302-48 PLAY
0.7Vp-p (20μsec. div)
IC302-50 PLAY
150mVp-p (20μsec. div)
IC302-53 PLAY
1.0Vp-p (20μsec. div)
IC302-55 PLAY
350mVp-p (20μsec. div)
IC302-38, 39 REC
150mVp-p (20μsec. div)
IC302-38, 39 PLAY
0.1Vp-p (20μsec. div)
DL802
2H DELAY
MESECAM
PAL
FSC
EE Ⓗ
TRICK Ⓛ
LP Ⓗ /SP Ⓛ
QR806
AMP
MUTE
CLAMP
CLP
AGC
EE
VV
DET
CHROMINANCE TRAP
MAIN L. P. F
NLDE
DOC
YNR
(dB)
(MHz) 4 4. 43 (PAL)
H. P. F
LIM
Y/C MIX
PIC CONT
NC
CNR
MAIN B. P. F
BURST DOWN
ACC
ACC DET
B. GENE
BGP
VV (SP)
VV (LP)
X2
KILLER
APC
VXO
MAIN B. M
BURST UP
630KHz L. P. F
630KHz B. P. F
VCO
1/4
SUB B. M
1/40
AFC
fH
SIDE LOCK
F. DET
ROTARY
DETAIL EMPHANSOR
NLE
HSS
MAIN EMPHASIS
12
dB
0 100K 500K 2M
Hz
MAIN EMPH
W/D CLIP
MHz
(PAL) 4. 8
(PAL) 3. 8
SYNC TIP
WHITE LEVEL
FM MODURATION
FM MODU
ENV. DET.
SUB L. P. F
FM DEM
(PAL) 627K 3. 8M 4. 8M (Hz)
630KHz
MESECAM Ⓗ
REC Ⓛ
QR807
IC302-64 REC/PLAY
4.8Vp-p (20μsec. div)
IC302-77, 78 REC
0.4Vp-p (20μsec. div)
IC302-77, 78 PLAY
0.4Vp-p (20μsec. div)
IC302-1 REC
30mVp-p (20μsec. div)
IC302-80 REC
1.0Vp-p (20μsec. div)
IC302-6 PLAY
1.0Vp-p (20μsec. div)
IC302-8 PLAY
0.5Vp-p (20μsec. div)
IC302-34 REC
0.7Vp-p (20μsec. div)
IC302-18 REC/PLAY
5.0Vp-p (10msec. div)
W/C
VR305
DEV
VR303
FO
VR304
PB Y
VR306
REG 5V
VSS
PS301
TO SYSTEM CTL
Q3010
REC C
PS303
VR3001
Q3001
BUFFER
REC Y
VR3002
TP3001
RF C
RF Y
PS302
ROTARY SW
PICTURE CTL
MESECAM Ⓗ
REC Ⓗ
FROM SYSTEM CTL
(A1)
(A2)
(A3)
(A4)
(A5)
(A6)
LUMINANCE & CHROMINANCE PACK C. B. A.

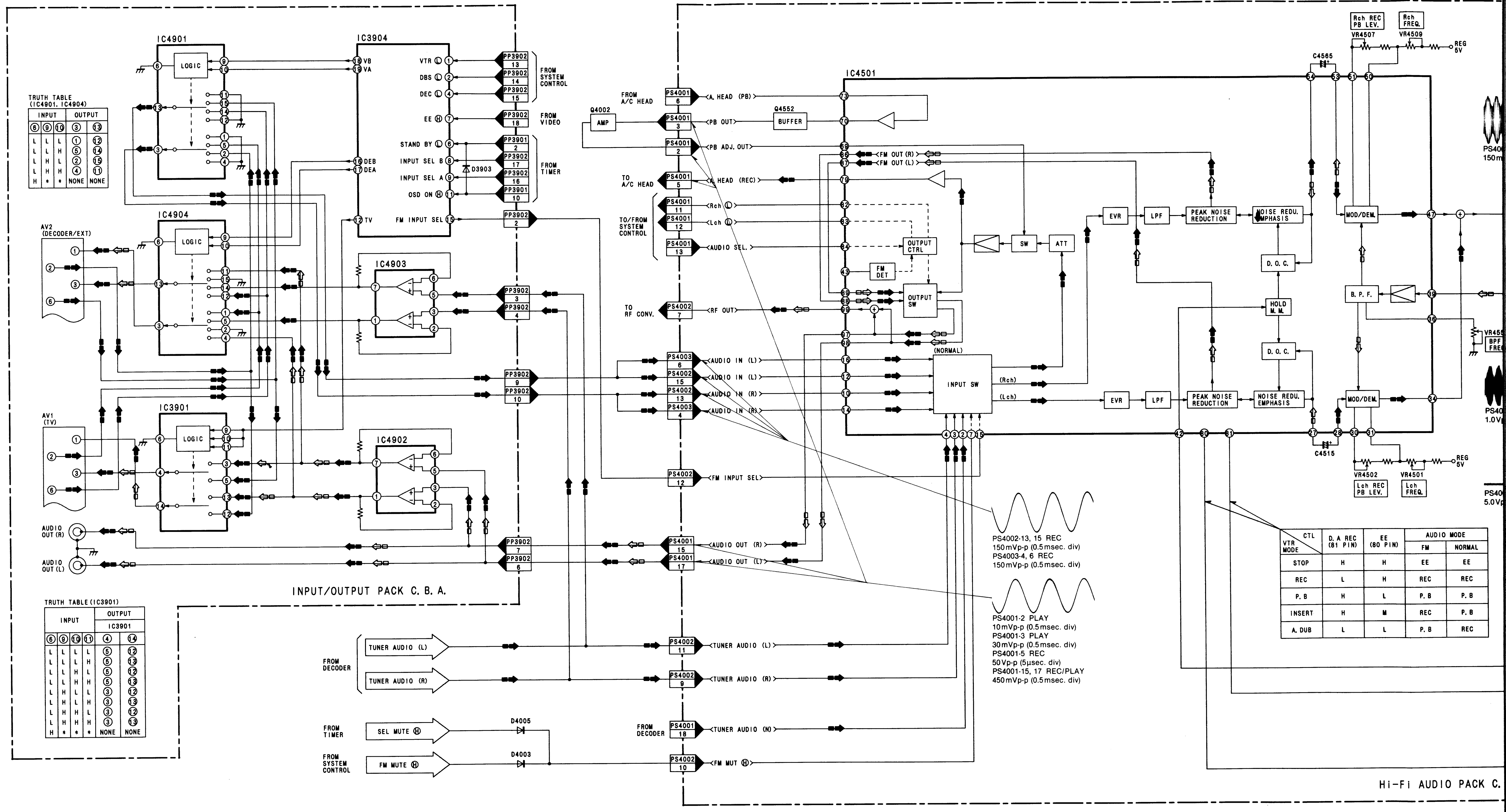
MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



AMP
L. P. F
HSS
L. P. F
IC302-64 REC/PLAY
4.8Vp-p (20μsec. div)
VSS
PS301 4
TO SYSTEM CTL
IC302-77, 78 REC
0.4Vp-p (20μsec. div)
IC302-77, 78 PLAY
0.4Vp-p (20μsec. div)
PHASIS
MAIN EMPH
W/D CLIP
W/C VR305
DEV VR303
FO VR304
REG 5V
IC302-1 REC
30mVp-p (20μsec. div)
IC302-80 REC
1.0Vp-p (20μsec. div)
FM MODU
WHITE LEVEL
TION
ENV. DET.
IC302-6 PLAY
1.0Vp-p (20μsec. div)
LIM
H. P. F
PB Y VR306
IC302-8 PLAY
0.5Vp-p (20μsec. div)
REG 5V
627K 3. 8M 4. 8M (Hz)
IC302-34 REC
0.7Vp-p (20μsec. div)
630KHz
IC302-18 REC/PLAY
5.0Vp-p (10msec. div)
MESECAM Ⓗ
REC Ⓛ
F. DET
QR807
REC C
PS303 6
REC C VR3001
Q3001
BUFFER
REC Y
PS301 6
REC Y VR3002
Q3001
BUFFER
TP3001
RF C
PS303 4
RF Y
PS302 8
ROTARY SW
PS302 9
PICTURE CTL
PS302 7
MESECAM Ⓗ
PS303 3
REC Ⓗ
PS303 1
FROM SYSTEM CTL
Q3010
REG 5V
(A6)
(A1)
(A2)
(A3)
(A4)
(A5)
P3002 15 P501 6 EX. REC 5V
P3002 8 P501 13 LP Ⓛ
QR501
P3002 18 P501 3 REC C
P3002 20 P501 1 REC Y
Q503
BUFFER
P3002 12 P501 9 HEAD SW
P3002 10 P501 11 ENV. SELECT
P3002 13 P501 8 HEAD AMP SW
P3002 14 P501 7 RF C
P3002 11 P501 10 TRACKING ENV.
IC501
SW LOGIC
AMP
SW
P. B ON
REC ON
REC ON
REC ON
1ST & 2ND AMP
HEAD SW
H. AMP SW
ENV. SELECT
AGC DET
CHROMA AMP
PEAKING AMP
AGC AMP
AT DET
HEAD AMP C. B. A.
R (26μm)
L' (49μm)
R' (49μm)
L (26μm)
P502 1 L'
P502 2 COM'
P502 3 R'
P502 4 L
P502 5 COM
P502 6 R
SP-L'
SP-R'
LP-L
LP-R
(PAL) 627K 3. 8M 4. 8M (Hz)
Q502, Q503
AMP
RF Y
P501 5 P3002 16
LP Ⓛ
HEAD SW
ENV. SELECT
HEAD AMP SW
TRACKING ENV.
REC Ⓗ
TO/FROM SYSTEM CTL
Q3004
AMP
L3006, C3032
627KHz TRAP
Q3005
FREQUENCY COMPENSATOR
Q3006, Q3007
BUFFER
(PAL) 3. 8M 4. 8M (Hz)
C3028
C3029
L3003
LP Q VR3013
SP Q VR3012
QR3002 LP Ⓗ
QR3003 SP Ⓗ

3-4. Hi-Fi AUDIO BLOCK DIAGRAM


IC4901
LOGIC
IC3904
VTR Ⓛ
DBS Ⓛ
DEC Ⓛ
EE Ⓗ
STAND BY Ⓛ
INPUT SEL B
INPUT SEL A
OSD ON Ⓗ
FM INPUT SEL
VB
VA
DEB
DEA
TV
D3903
PP3902
PP3901
FROM SYSTEM CONTROL
FROM VIDEO
FROM TIMER
IC4904
AV2 (DECODER/EXT)
IC4903
IC4902
IC3901
AV1 (TV)
AUDIO OUT (R)
AUDIO OUT (L)
INPUT/OUTPUT PACK C. B. A.
FROM A/C HEAD
Q4002
AMP
PS4001
PS4002
PS4003
A. HEAD (PB)
PB OUT
PB ADJ. OUT
TO A/C HEAD
A. HEAD (REC)
TO/FROM SYSTEM CONTROL
Rch Ⓛ
Lch Ⓛ
AUDIO SEL.
TO RF CONV.
RF OUT
AUDIO IN (L)
AUDIO IN (R)
FM INPUT SEL
AUDIO OUT (R)
AUDIO OUT (L)
Q4552
BUFFER
IC4501
FM OUT (R)
FM OUT (L)
FM DET
OUTPUT CTRL
OUTPUT SW
SW
ATT
EVR
LPF
PEAK NOISE REDUCTION
NOISE REDU. EMPHASIS
D. O. C.
HOLD M. M.
MOD/DEM.
B. P. F.
(NORMAL)
INPUT SW
(Rch)
(Lch)
C4565
C4515
Rch REC PB LEV.
VR4507
Rch FREQ.
VR4509
REG 5V
VR4502
Lch REC PB LEV.
VR4501
Lch FREQ.
VR455
BPF FRE
PS40
150m
1.0V
5.0Vp
FROM DECODER
TUNER AUDIO (L)
TUNER AUDIO (R)
FROM TIMER
SEL MUTE Ⓗ
D4005
FROM SYSTEM CONTROL
FM MUTE Ⓗ
D4003
TUNER AUDIO (N)
FM MUT Ⓗ
Hi-Fi AUDIO PACK C.

TRUTH TABLE (IC4901, IC4904)

INPUT			OUTPUT	
⑥	⑨	⑩	③	⑬
L	L	L	①	⑫
L	L	H	⑤	⑭
L	H	L	②	⑮
L	H	H	④	⑪
H	*	*	NONE	NONE

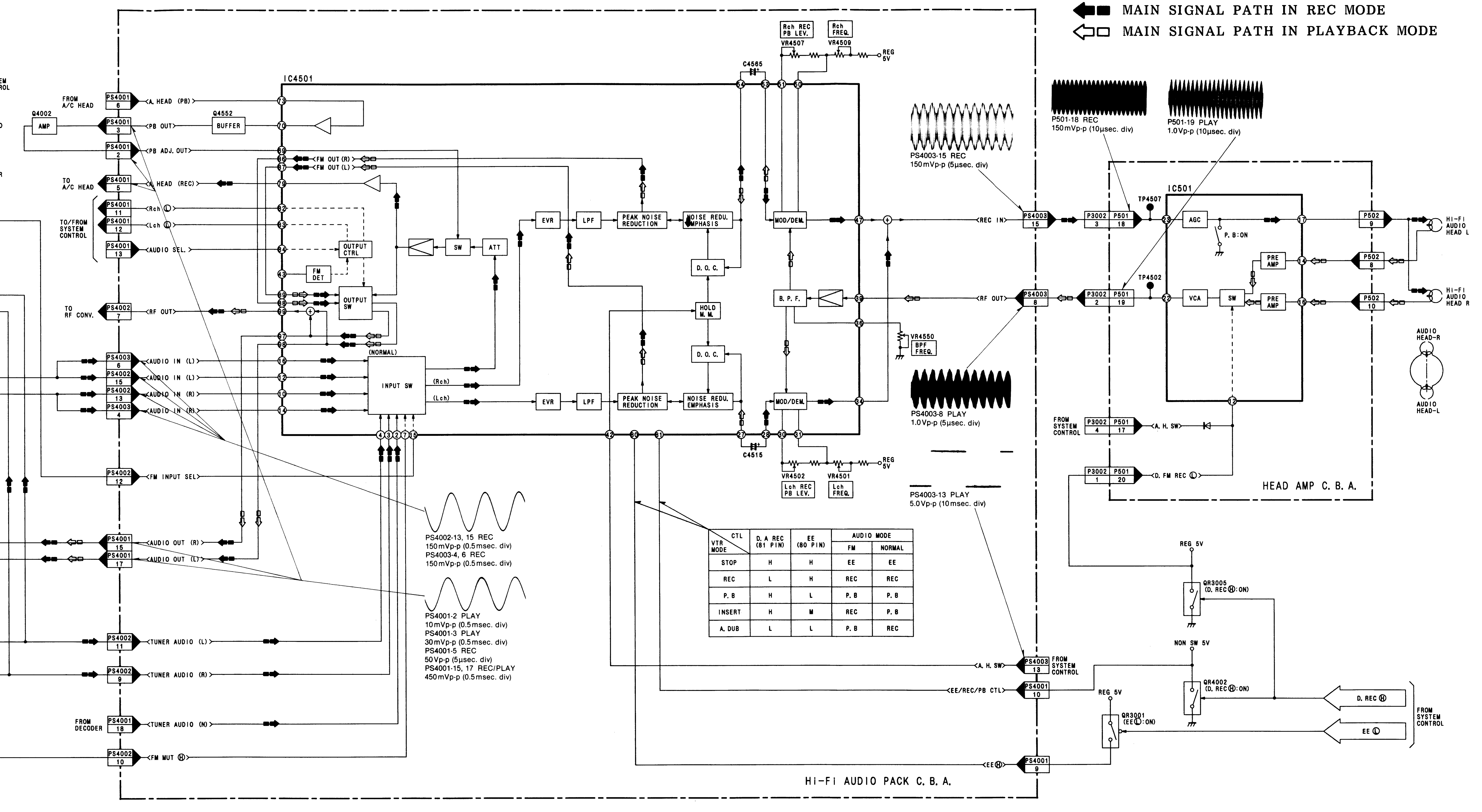
TRUTH TABLE (IC3901)

INPUT				OUTPUT	
				IC3901	
⑥	⑨	⑩	⑪	④	⑭
L	L	L	L	⑤	⑫
L	L	L	H	⑤	⑬
L	L	H	L	⑤	⑫
L	L	H	H	⑤	⑬
L	H	L	L	③	⑫
L	H	L	H	③	⑬
L	H	H	L	③	⑫
L	H	H	H	③	⑬
H	*	*	*	NONE	NONE

PS4002-13, 15 REC
150mVp-p (0.5msec. div)
PS4003-4, 6 REC
150mVp-p (0.5msec. div)

PS4001-2 PLAY
10mVp-p (0.5msec. div)
PS4001-3 PLAY
30mVp-p (0.5msec. div)
PS4001-5 REC
50Vp-p (5µsec. div)
PS4001-15, 17 REC/PLAY
450mVp-p (0.5msec. div)

VTR MODE \ CTL	D. A REC (81 PIN)	EE (80 PIN)	AUDIO MODE	
			FM	NORMAL
STOP	H	H	EE	EE
REC	L	H	REC	REC
P. B	H	L	P. B	P. B
INSERT	H	M	REC	P. B
A. DUB	L	L	P. B	REC


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
IC4501
IC501
Q4002
AMP
Q4552
BUFFER
FROM A/C HEAD
TO A/C HEAD
TO/FROM SYSTEM CONTROL
TO RF CONV.
FROM DECODER
PS4001 6
PS4001 3
PS4001 2
PS4001 5
PS4001 11
PS4001 12
PS4001 13
PS4002 7
PS4003 6
PS4002 15
PS4002 13
PS4003 4
PS4002 12
PS4001 15
PS4001 17
PS4002 11
PS4002 9
PS4001 18
PS4002 10
A. HEAD (PB)
PB OUT
PB ADJ. OUT
A. HEAD (REC)
Rch Ⓛ
Lch Ⓛ
AUDIO SEL.
RF OUT
AUDIO IN (L)
AUDIO IN (R)
FM INPUT SEL
AUDIO OUT (R)
AUDIO OUT (L)
TUNER AUDIO (L)
TUNER AUDIO (R)
TUNER AUDIO (N)
FM MUT Ⓗ
FM OUT (R)
FM OUT (L)
OUTPUT CTRL
FM DET
OUTPUT SW
INPUT SW
(NORMAL)
(Rch)
(Lch)
SW
ATT
EVR
LPF
PEAK NOISE REDUCTION
NOISE REDU. EMPHASIS
D. O. C.
HOLD M. M.
MOD/DEM.
B. P. F.
C4565
C4515
Rch REC PB LEV.
VR4507
Rch FREQ.
VR4509
Lch REC PB LEV.
VR4502
Lch FREQ.
VR4501
REG 5V
VR4550
BPF FREQ.
REC IN
PS4003 15
PS4003 8
PS4003 13
PS4001 10
PS4001 9
A. H. SW
EE/REC/PB CTL
EEⒽ
FROM SYSTEM CONTROL
TP4507
TP4502
P3002 3
P501 18
P3002 2
P501 19
P3002 4
P501 17
P3002 1
P501 20
D. FM REC Ⓛ
AGC
P. B:ON
PRE AMP
VCA
SW
P502 9
P502 8
P502 10
Hi-Fi AUDIO HEAD L
Hi-Fi AUDIO HEAD R
AUDIO HEAD-R
AUDIO HEAD-L
HEAD AMP C. B. A.
Hi-Fi AUDIO PACK C. B. A.
QR3005 (D. RECⒽ:ON)
NON SW 5V
QR4002 (D. RECⒽ:ON)
QR3001 (EEⓁ:ON)
D. RECⒽ
EE Ⓛ

P501-18 REC
150mVp-p (10μsec. div)

P501-19 PLAY
1.0Vp-p (10μsec. div)

PS4003-15 REC
150mVp-p (5μsec. div)

PS4003-8 PLAY
1.0Vp-p (5μsec. div)

PS4003-13 PLAY
5.0Vp-p (10msec. div)

PS4002-13, 15 REC
150mVp-p (0.5msec. div)
PS4003-4, 6 REC
150mVp-p (0.5msec. div)

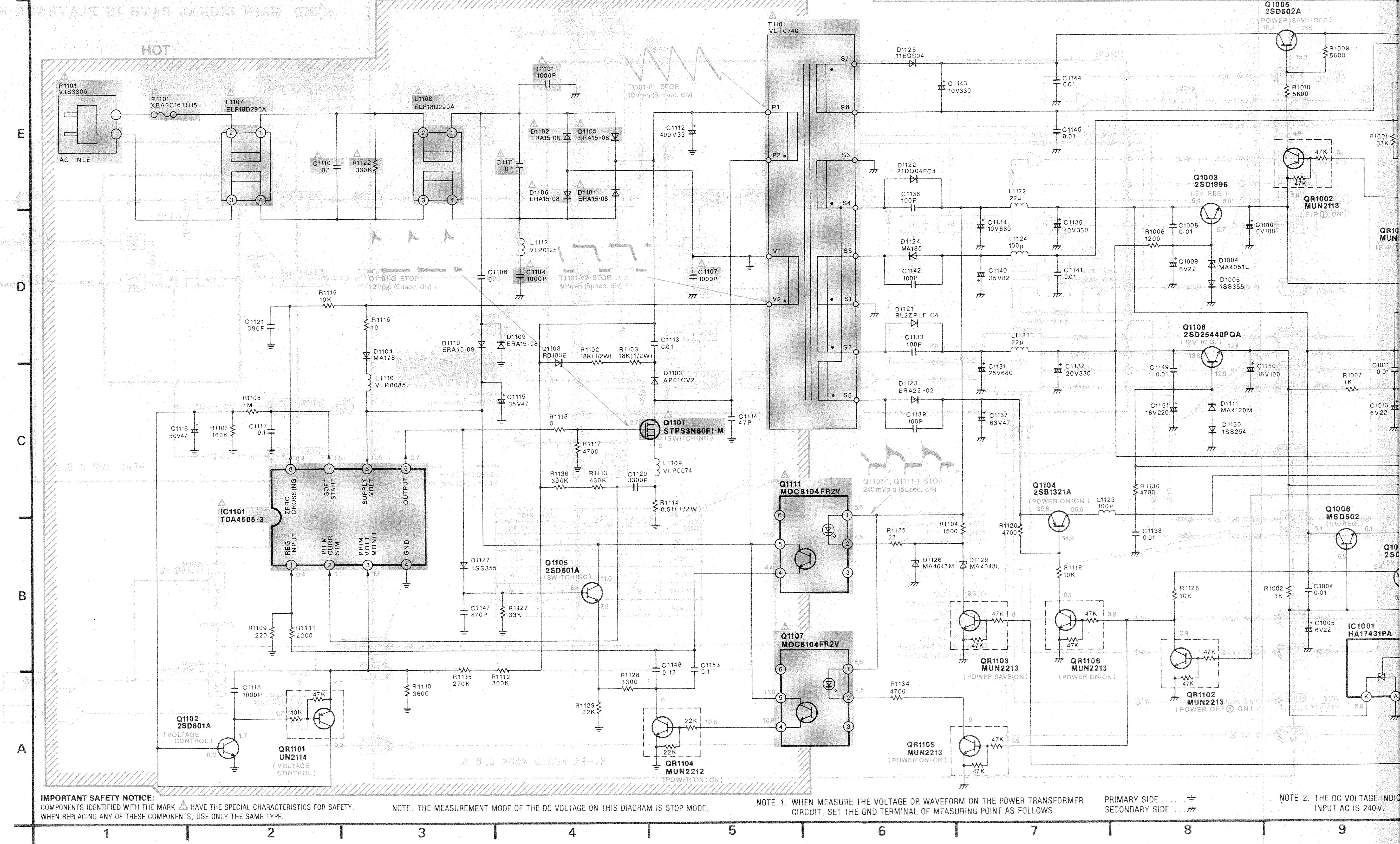
PS4001-2 PLAY
10mVp-p (0.5msec. div)
PS4001-3 PLAY
30mVp-p (0.5msec. div)
PS4001-5 REC
50Vp-p (5μsec. div)
PS4001-15, 17 REC/PLAY
450mVp-p (0.5msec. div)

CTL / VTR MODE	D. A REC (81 PIN)	EE (80 PIN)	AUDIO MODE	
			FM	NORMAL
STOP	H	H	EE	EE
REC	L	H	REC	REC
P. B	H	L	P. B	P. B
INSERT	H	M	REC	P. B
A. DUB	L	L	P. B	REC

SECTION 4
SCHEMATIC DIAGRAMS

4-1. POWER SUPPLY SECTION IN MAIN SCHEMATIC DIAGRAM

CAUTION THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH T
THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAI
THE PRODUCTS.


HOT
P1101 VJS3306
AC INLET
F1101 XBA2C16TH15
L1107 ELF18D290A
L1108 ELF18D290A
C1110 0.1
R1122 330K
C1111 0.1
C1101 1000P
D1102 ERA15-08
D1105 ERA15-08
D1106 ERA15-08
D1107 ERA15-08
T1101-P1 STOP 10Vp-p (5msec. div)
C1112 400V33
T1101 VLT0740
P1 P2 V1 V2 S1 S2 S3 S4 S5 S6 S7 S8
L1112 VLP0125
C1104 1000P
C1106 0.1
Q1101-G STOP 12Vp-p (5μsec. div)
T1101-V2 STOP 40Vp-p (5μsec. div)
C1107 1000P
R1115 10K
C1121 390P
R1116 10
D1104 MA178
L1110 VLP0085
D1110 ERA15-08
D1109 ERA15-08
C1115 35V47
D1108 RD100E
R1102 18K(1/2W)
R1103 18K(1/2W)
C1113 0.01
D1103 AP01CV2
R1118 0
R1117 4700
Q1101 STPS3N60FI-M (SWITCHING)
C1114 47P
L1109 VLP0074
R1136 390K
R1113 430K
C1120 3300P
R1114 0.51(1/2W)
R1108 1M
C1116 50V47
R1107 160K
C1117 0.1
IC1101 TDA4605-3
ZERO CROSSING
SOFT START
SUPPLY VOLT
OUTPUT
REG INPUT
PRIM CURR SIM
PRIM VOLT MONIT
GND
D1127 1SS355
C1147 470P
R1127 33K
Q1105 2SD601A (SWITCHING)
R1109 220
R1111 2200
R1110 3600
R1135 270K
R1112 300K
C1118 1000P
Q1102 2SD601A (VOLTAGE CONTROL)
QR1101 UN2114 (VOLTAGE CONTROL)
R1128 3300
C1148 0.12
C1153 0.1
R1129 22K
QR1104 MUN2212 (POWER ON:ON)
Q1111 MOC8104FR2V
Q1107 MOC8104FR2V
Q1107-1, Q1111-1 STOP 240mVp-p (5μsec. div)
R1125 22
R1104 1500
D1126 MA4047M
D1129 MA4043L
R1134 4700
QR1105 MUN2213 (POWER ON:ON)
D1125 11EQS04
C1143 10V330
C1144 0.01
C1145 0.01
D1122 21DQ04FC4
C1136 100P
L1122 22μ
C1134 10V680
C1135 10V330
D1124 MA185
L1124 100μ
C1142 100P
C1140 35V82
C1141 0.01
D1121 RL2ZPLF-C4
C1133 100P
L1121 22μ
C1131 25V680
C1132 20V330
D1123 ERA22-02
C1139 100P
C1137 63V47
Q1005 2SD602A (POWER SAVE:OFF)
R1009 5600
R1010 5600
R1001 33K
QR1002 MUN2113 (FIP Ⓓ:ON)
Q1003 2SD1996 (5V REG.)
R1006 1200
C1008 0.01
C1010 6V100
C1009 6V22
D1004 MA4051L
D1005 1SS355
Q1106 2SD25440PQA (12V REG.)
C1149 0.01
C1150 16V100
C1151 16V220
D1111 MA4120M
D1130 1SS254
C1011 0.01
R1007 1K
C1013 6V22
Q1104 2SB1321A (POWER ON:ON)
L1123 100μ
R1120 4700
R1119 10K
R1130 4700
C1138 0.01
QR1103 MUN2213 (POWER SAVE:ON)
QR1106 MUN2213 (POWER ON:ON)
R1126 10K
QR1102 MUN2213 (POWER OFF Ⓡ:ON)
Q1006 MSD602 (5V REG.)
R1002 1K
C1004 0.01
C1005 6V22
IC1001 HA17431PA
E D C B A
1 2 3 4 5 6 7 8 9

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

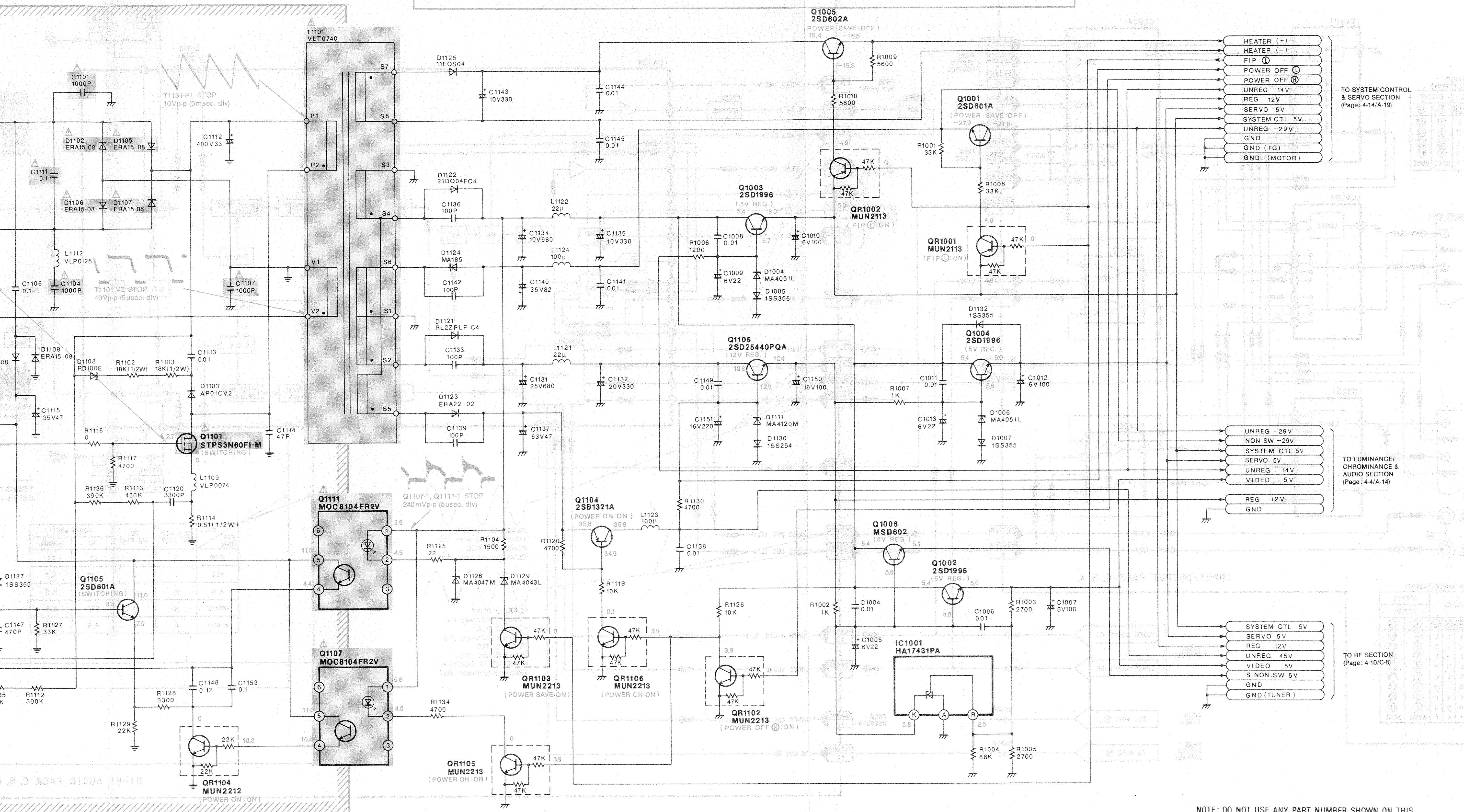
NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.

PRIMARY SIDE ...... ⏚
SECONDARY SIDE ... ⏚

NOTE 2. THE DC VOLTAGE INDIC INPUT AC IS 240V.

ATIC DIAGRAM

CAUTION THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.


T1101
VLT0740
P1
P2
V1
V2
S1
S2
S3
S4
S5
S6
S7
S8
C1101 1000P
T1101-P1 STOP 10Vp-p (5msec. div)
D1102 ERA15-08
D1105 ERA15-08
D1106 ERA15-08
D1107 ERA15-08
C1111 0.1
C1112 400V33
L1112 VLP0125
C1106 0.1
C1104 1000P
T1101-V2 STOP 40Vp-p (5μsec. div)
C1107 1000P
D1109 ERA15-08
D1108 RD100E
R1102 18K(1/2W)
R1103 18K(1/2W)
C1113 0.01
D1103 AP01CV2
C1115 35V47
R1118 0
R1117 4700
Q1101 STPS3N60FI-M (SWITCHING)
C1114 47P
L1109 VLP0074
R1136 390K
R1113 430K
C1120 3300P
R1114 0.51(1/2W)
D1127 1SS355
Q1105 2SD601A (SWITCHING)
C1147 470P
R1127 33K
R1112 300K
R1128 3300
C1148 0.12
C1153 0.1
R1129 22K
QR1104 MUN2212 (POWER ON:ON)
Q1111 MOC8104FR2V
Q1107 MOC8104FR2V
Q1107-1, Q1111-1 STOP 240mVp-p (5μsec. div)
D1125 11EQS04
C1143 10V330
C1144 0.01
C1145 0.01
D1122 21DQ04FC4
C1136 100P
C1134 10V680
L1122 22μ
C1135 10V330
D1124 MA185
C1142 100P
C1140 35V82
L1124 100μ
C1141 0.01
D1121 RL2ZPLF-C4
C1133 100P
C1131 25V680
L1121 22μ
C1132 20V330
D1123 ERA22-02
C1139 100P
C1137 63V47
R1125 22
R1104 1500
D1126 MA4047M
D1129 MA4043L
R1134 4700
QR1103 MUN2213 (POWER SAVE:ON)
QR1105 MUN2213 (POWER ON:ON)
Q1104 2SB1321A (POWER ON:ON)
R1120 4700
L1123 100μ
R1119 10K
QR1106 MUN2213 (POWER ON:ON)
R1130 4700
C1138 0.01
Q1005 2SD602A (POWER SAVE:OFF)
R1009 5600
R1010 5600
QR1002 MUN2113 (FIP Ⓛ:ON)
Q1003 2SD1996 (5V REG.)
C1008 0.01
R1006 1200
C1010 6V100
C1009 6V22
D1004 MA4051L
D1005 1SS355
Q1001 2SD601A (POWER SAVE:OFF)
R1001 33K
R1008 33K
QR1001 MUN2113 (FIP Ⓛ:ON)
D1132 1SS355
Q1004 2SD1996 (5V REG.)
Q1106 2SD25440PQA (12V REG.)
C1149 0.01
C1150 16V100
C1151 16V220
D1111 MA4120M
D1130 1SS254
R1007 1K
C1011 0.01
C1012 6V100
C1013 6V22
D1006 MA4051L
D1007 1SS355
R1126 10K
QR1102 MUN2213 (POWER OFF Ⓡ:ON)
Q1006 MSD602 (5V REG.)
Q1002 2SD1996 (5V REG.)
R1002 1K
C1004 0.01
C1005 6V22
C1006 0.01
R1003 2700
C1007 6V100
IC1001 HA17431PA
K
A
R
R1004 68K
R1005 2700
HEATER (+)
HEATER (−)
FIP Ⓛ
POWER OFF Ⓛ
POWER OFF Ⓡ
UNREG 14V
REG 12V
SERVO 5V
SYSTEM CTL 5V
UNREG −29V
GND
GND (FG)
GND (MOTOR)
TO SYSTEM CONTROL & SERVO SECTION (Page: 4-14/A-19)
UNREG −29V
NON SW −29V
SYSTEM CTL 5V
SERVO 5V
UNREG 14V
VIDEO 5V
REG 12V
GND
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION (Page: 4-4/A-14)
SYSTEM CTL 5V
SERVO 5V
REG 12V
UNREG 45V
VIDEO 5V
S.NON.SW 5V
GND
GND (TUNER)
TO RF SECTION (Page: 4-10/C-8)

EMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.

PRIMARY SIDE ...... ⏚
SECONDARY SIDE ... ⏚

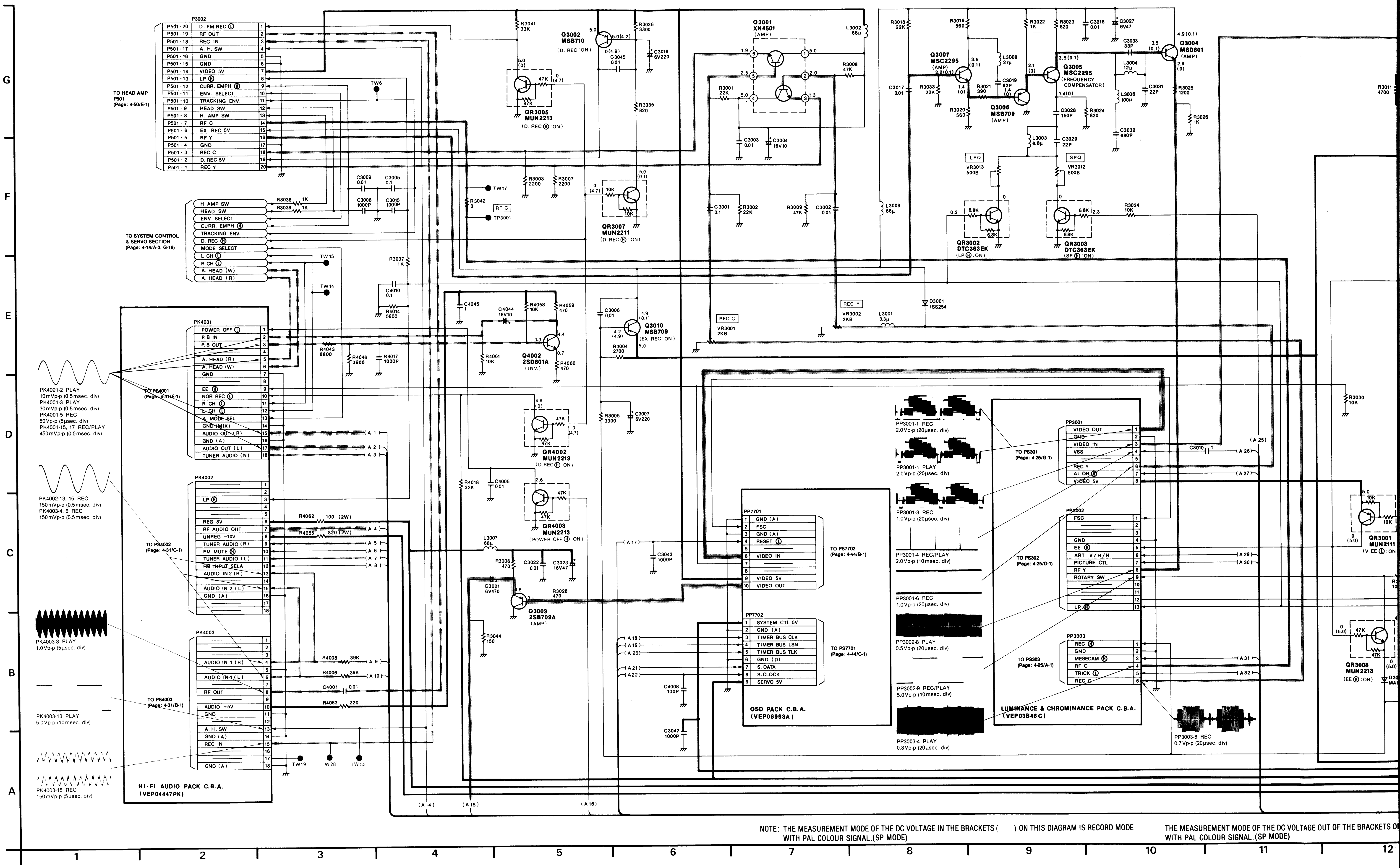
NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 240V.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4 5 6 7 8 9 10 11 12

4-2. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE



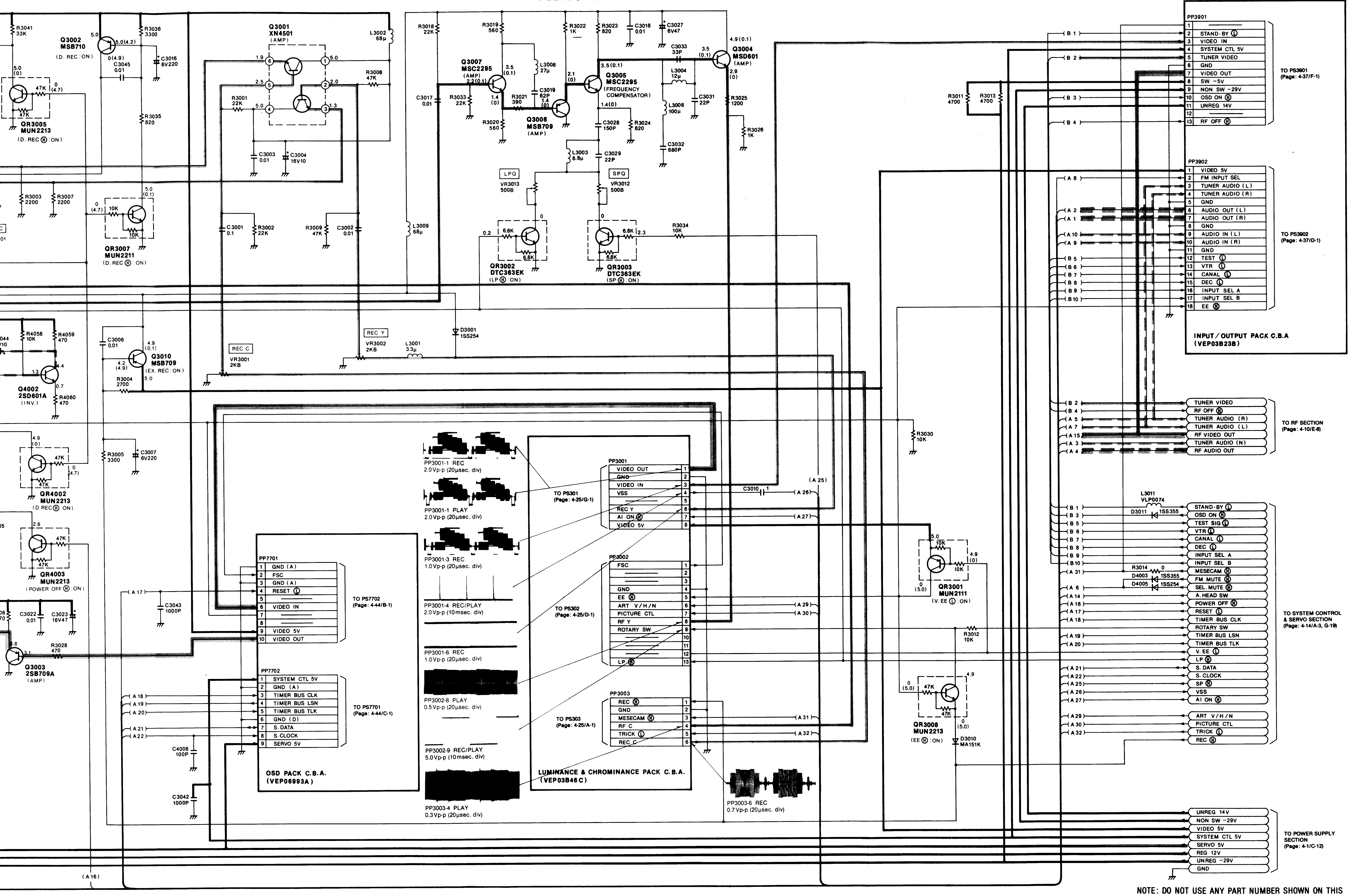
P3002
P501 · 20 D. FM REC Ⓛ
P501 · 19 RF OUT
P501 · 18 REC IN
P501 · 17 A. H. SW
P501 · 16 GND
P501 · 15 GND
P501 · 14 VIDEO 5V
P501 · 13 LP Ⓗ
P501 · 12 CURR. EMPH Ⓗ
P501 · 11 ENV. SELECT
P501 · 10 TRACKING ENV.
P501 · 9 HEAD SW
P501 · 8 H. AMP SW
P501 · 7 RF C
P501 · 6 EX. REC 5V
P501 · 5 RF Y
P501 · 4 GND
P501 · 3 REC C
P501 · 2 D. REC 5V
P501 · 1 REC Y
TO HEAD AMP P501 (Page: 4-50/E-1)
H. AMP SW
HEAD SW
ENV. SELECT
CURR. EMPH Ⓗ
TRACKING ENV.
D. REC Ⓗ
MODE SELECT
L CH Ⓛ
R CH Ⓛ
A. HEAD (W)
A. HEAD (R)
TO SYSTEM CONTROL & SERVO SECTION (Page: 4-14/A-3, G-19)
TW6
TW15
TW14
TW17
TP3001
RF C
Q3002 MSB710 (D. REC ON)
QR3005 MUN2213 (D. REC Ⓗ ON)
QR3007 MUN2211 (D. REC Ⓗ ON)
Q3001 XN4501 (AMP)
Q3007 MSC2295 (AMP)
Q3006 MSB709 (AMP)
Q3005 MSC2295 (FREQUENCY COMPENSATOR)
Q3004 MSD601 (AMP)
QR3002 DTC363EK (LP Ⓗ ON)
QR3003 DTC363EK (SP Ⓗ ON)
LPQ VR3013 500B
SPQ VR3012 500B
REC Y VR3002 2KB
REC C VR3001 2KB
D3001 1SS254
Q3010 MSB709 (EX. REC ON)
Q4002 2SD601A (INV.)
QR4002 MUN2213 (D. REC Ⓗ ON)
QR4003 MUN2213 (POWER OFF Ⓗ ON)
Q3003 2SB709A (AMP)
QR3001 MUN2111 (V. EE Ⓛ ON)
QR3008 MUN2213 (EE Ⓗ ON)
PK4001
POWER OFF Ⓛ
P.B IN
P.B OUT
A. HEAD (R)
A. HEAD (W)
GND
EE Ⓗ
NOR REC Ⓛ
R CH Ⓛ
L CH Ⓛ
A. MODE SEL
GND (MIX)
AUDIO OUT (R)
GND (A)
AUDIO OUT (L)
TUNER AUDIO (N)
TO PS4001 (Page: 4-31/E-1)
PK4001-2 PLAY 10mVp-p (0.5msec. div)
PK4001-3 PLAY 30mVp-p (0.5msec. div)
PK4001-5 REC 50Vp-p (5µsec. div)
PK4001-15, 17 REC/PLAY 450mVp-p (0.5msec. div)
PK4002
LP Ⓗ
REG 8V
RF AUDIO OUT
UNREG -10V
TUNER AUDIO (R)
FM MUTE Ⓗ
TUNER AUDIO (L)
FM INPUT SELA
AUDIO IN 2 (R)
AUDIO IN 2 (L)
GND (A)
TO PS4002 (Page: 4-31/C-1)
PK4002-13, 15 REC 150mVp-p (0.5msec. div)
PK4003-4, 6 REC 150mVp-p (0.5msec. div)
PK4003
AUDIO IN 1 (R)
AUDIO IN 1 (L)
RF OUT
AUDIO +5V
GND
A.H. SW
GND (A)
REC IN
GND (A)
TO PS4003 (Page: 4-31/B-1)
PK4003-8 PLAY 1.0Vp-p (5µsec. div)
PK4003-13 PLAY 5.0Vp-p (10msec. div)
PK4003-15 REC 150mVp-p (5µsec. div)
TW19
TW28
TW53
Hi-Fi AUDIO PACK C.B.A. (VEP04447PK)
PP7701
GND (A)
FSC
GND (A)
RESET Ⓛ
VIDEO IN
VIDEO 5V
VIDEO OUT
TO PS7702 (Page: 4-44/B-1)
PP7702
SYSTEM CTL 5V
GND (A)
TIMER BUS CLK
TIMER BUS LSN
TIMER BUS TLK
GND (D)
S. DATA
S. CLOCK
SERVO 5V
TO PS7701 (Page: 4-44/C-1)
OSD PACK C.B.A. (VEP06993A)
PP3001-1 REC 2.0Vp-p (20µsec. div)
PP3001-1 PLAY 2.0Vp-p (20µsec. div)
PP3001-3 REC 1.0Vp-p (20µsec. div)
PP3001-4 REC/PLAY 2.0Vp-p (10msec. div)
PP3001-6 REC 1.0Vp-p (20µsec. div)
PP3002-8 PLAY 0.5Vp-p (20µsec. div)
PP3002-9 REC/PLAY 5.0Vp-p (10msec. div)
PP3003-4 PLAY 0.3Vp-p (20µsec. div)
PP3003-6 REC 0.7Vp-p (20µsec. div)
PP3001
VIDEO OUT
GND
VIDEO IN
VSS
REC Y
AI ON Ⓗ
VIDEO 5V
TO PS301 (Page: 4-25/G-1)
PP3002
FSC
GND
EE Ⓗ
ART V/H/N
PICTURE CTL
RF Y
ROTARY SW
LP Ⓗ
TO PS302 (Page: 4-25/D-1)
PP3003
REC Ⓗ
GND
MESECAM Ⓗ
RF C
TRICK Ⓛ
REC C
TO PS303 (Page: 4-25/A-1)
LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03B46C)
(A 1) (A 2) (A 3) (A 4) (A 5) (A 6) (A 7) (A 8) (A 9) (A 10) (A 14) (A 15) (A 16) (A 17) (A 18) (A 19) (A 20) (A 21) (A 22) (A 25) (A 26) (A 27) (A 29) (A 30) (A 31) (A 32)
G
F
E
D
C
B
A
1 2 3 4 5 6 7 8 9 10 11 12

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS O WITH PAL COLOUR SIGNAL. (SP MODE)

N MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


Q3002 MSB710 (D. REC : ON)
QR3005 MUN2213 (D. REC Ⓗ : ON)
Q3001 XN4501 (AMP)
Q3007 MSC2295 (AMP)
Q3006 MSB709 (AMP)
Q3005 MSC2295 (FREQUENCY COMPENSATOR)
Q3004 MSD601 (AMP)
QR3007 MUN2211 (D. REC Ⓗ : ON)
LPQ VR3013 500B
SPQ VR3012 500B
QR3002 DTC363EK (LP Ⓗ : ON)
QR3003 DTC363EK (SP Ⓗ : ON)
Q4002 2SD601A (INV.)
Q3010 MSB709 (EX. REC : ON)
REC C VR3001 2KB
REC Y VR3002 2KB
D3001 1SS254
QR4002 MUN2213 (D. REC Ⓗ : ON)
QR4003 MUN2213 (POWER OFF Ⓗ : ON)
Q3003 2SB709A (AMP)
PP7701: 1 GND (A), 2 FSC, 3 GND (A), 4 RESET Ⓛ, 5, 6 VIDEO IN, 7, 8, 9 VIDEO 5V, 10 VIDEO OUT
TO PS7702 (Page: 4-44/B-1)
PP7702: 1 SYSTEM CTL 5V, 2 GND (A), 3 TIMER BUS CLK, 4 TIMER BUS LSN, 5 TIMER BUS TLK, 6 GND (D), 7 S.DATA, 8 S.CLOCK, 9 SERVO 5V
TO PS7701 (Page: 4-44/C-1)
OSD PACK C.B.A. (VEP06993A)
PP3001-1 REC 2.0Vp-p (20μsec. div)
PP3001-1 PLAY 2.0Vp-p (20μsec. div)
PP3001-3 REC 1.0Vp-p (20μsec. div)
PP3001-4 REC/PLAY 2.0Vp-p (10msec. div)
PP3001-6 REC 1.0Vp-p (20μsec. div)
PP3002-8 PLAY 0.5Vp-p (20μsec. div)
PP3002-9 REC/PLAY 5.0Vp-p (10msec. div)
PP3003-4 PLAY 0.3Vp-p (20μsec. div)
PP3003-6 REC 0.7Vp-p (20μsec. div)
PP3001: 1 VIDEO OUT, 2 GND, 3 VIDEO IN, 4 VSS, 5, 6 REC Y, 7 AI ON Ⓗ, 8 VIDEO 5V
TO PS301 (Page: 4-25/G-1)
PP3002: 1 FSC, 4 GND, 5 EE Ⓗ, 6 ART V/H/N, 7 PICTURE CTL, 8 RF Y, 9 ROTARY SW, 13 LP Ⓗ
TO PS302 (Page: 4-25/D-1)
PP3003: 1 REC Ⓗ, 2 GND, 3 MESECAM Ⓗ, 4 RF C, 5 TRICK Ⓛ, 6 REC C
TO PS303 (Page: 4-25/A-1)
LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03B46C)
QR3001 MUN2111 (V. EE Ⓛ : ON)
QR3008 MUN2213 (EE Ⓗ : ON)
D3010 MA151K
L3011 VLP0074
D3011 1SS355
D4003 1SS355
D4005 1SS254
PP3901: 1, 2 STAND-BY Ⓛ, 3 VIDEO IN, 4 SYSTEM CTL 5V, 5 TUNER VIDEO, 6 GND, 7 VIDEO OUT, 8 SW -5V, 9 NON SW -29V, 10 OSD ON Ⓗ, 11 UNREG 14V, 12, 13 RF OFF Ⓗ
TO PS3901 (Page: 4-37/F-1)
PP3902: 1 VIDEO 5V, 2 FM INPUT SEL, 3 TUNER AUDIO (L), 4 TUNER AUDIO (R), 5 GND, 6 AUDIO OUT (L), 7 AUDIO OUT (R), 8 GND, 9 AUDIO IN (L), 10 AUDIO IN (R), 11 GND, 12 TEST Ⓛ, 13 VTR Ⓛ, 14 CANAL Ⓛ, 15 DEC Ⓛ, 16 INPUT SEL A, 17 INPUT SEL B, 18 EE Ⓗ
TO PS3902 (Page: 4-37/D-1)
INPUT/OUTPUT PACK C.B.A (VEP03B23B)
TUNER VIDEO, RF OFF Ⓗ, TUNER AUDIO (R), TUNER AUDIO (L), RF VIDEO OUT, TUNER AUDIO (N), RF AUDIO OUT
TO RF SECTION (Page: 4-10/E-8)
STAND-BY Ⓛ, OSD ON Ⓗ, TEST SIG Ⓛ, VTR Ⓛ, CANAL Ⓛ, DEC Ⓛ, INPUT SEL A, INPUT SEL B, MESECAM Ⓗ, FM MUTE Ⓗ, SEL. MUTE Ⓗ, A.HEAD SW, POWER OFF Ⓗ, RESET Ⓛ, TIMER BUS CLK, ROTARY SW, TIMER BUS LSN, TIMER BUS TLK, V.EE Ⓛ, LP Ⓗ, S.DATA, S.CLOCK, SP Ⓗ, VSS, AI ON Ⓗ, ART V/H/N, PICTURE CTL, TRICK Ⓛ, REC Ⓗ
TO SYSTEM CONTROL & SERVO SECTION (Page: 4-14/A-3, G-19)
UNREG 14V, NON SW -29V, VIDEO 5V, SYSTEM CTL 5V, SERVO 5V, REG 12V, UNREG -29V, GND
TO POWER SUPPLY SECTION (Page: 4-1/C-12)

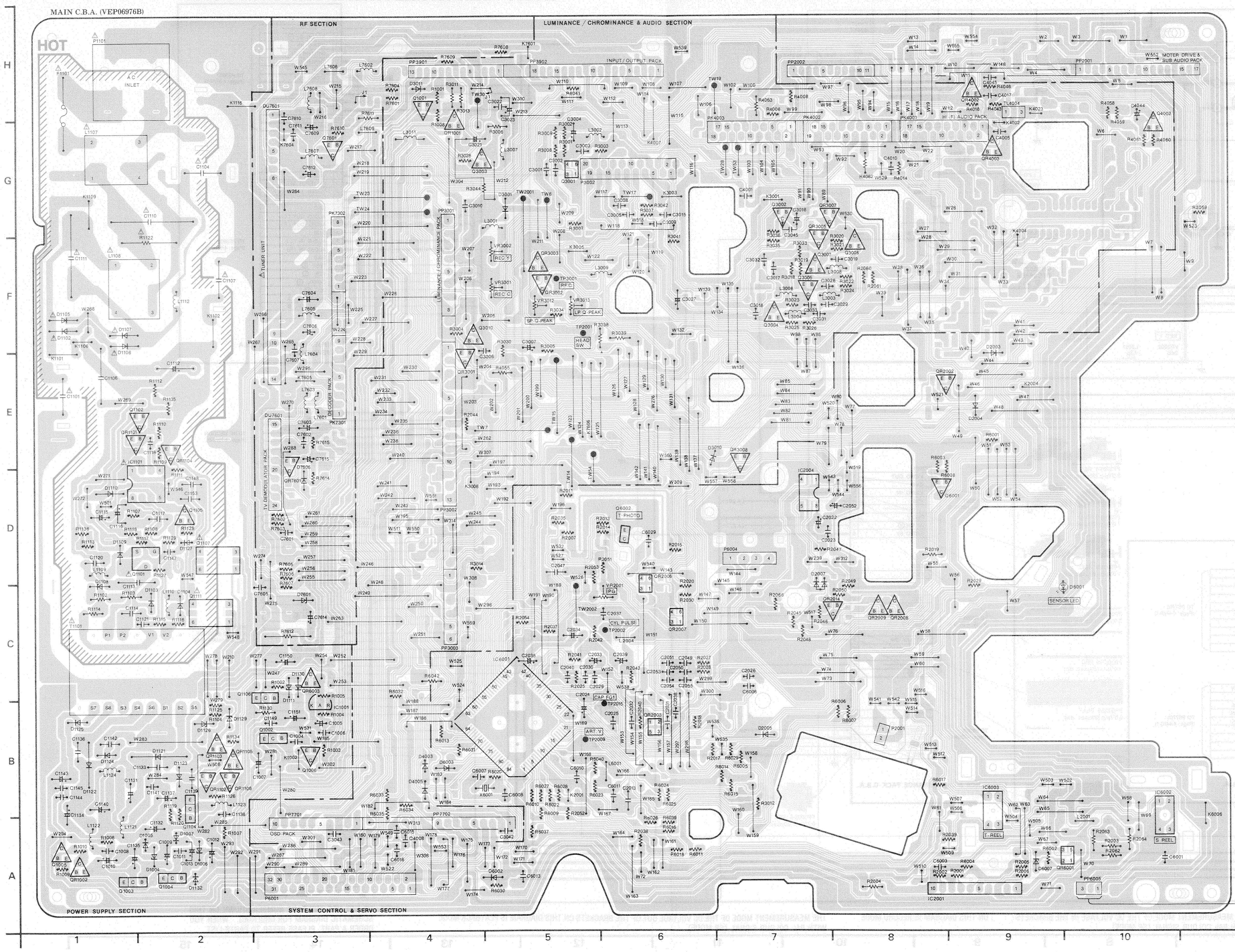
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.(SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.(SP MODE)

5 6 7 8 9 10 11 12 13 14 15

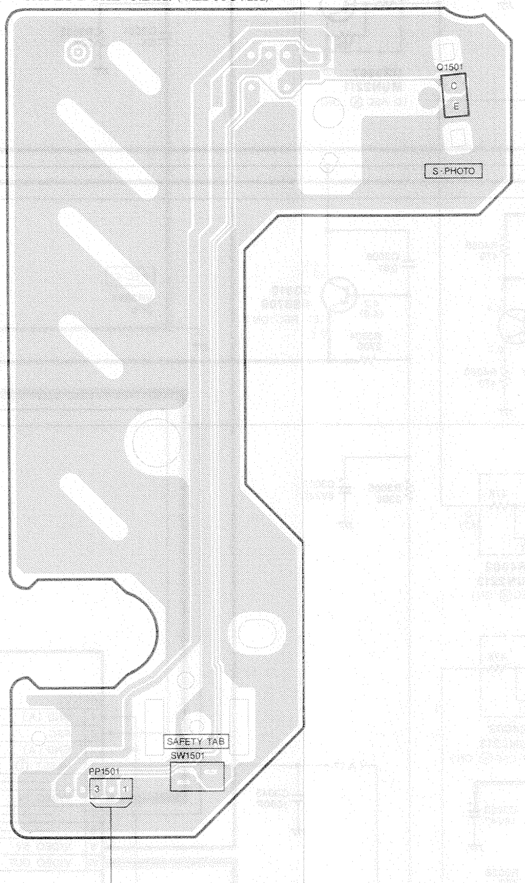
4-3. MAIN C.B.A. (VEP06976B)


MAIN C.B.A. (VEP06976B)
HOT
RF SECTION
LUMINANCE / CHROMINANCE & AUDIO SECTION
POWER SUPPLY SECTION
SYSTEM CONTROL & SERVO SECTION
INPUT / OUTPUT PACK
MOTER DRIVE & SUB AUDIO PACK
HI (F) AUDIO PACK
TUNER UNIT
TV DEMODULATOR PACK
DECODER PACK
LUMINANCE / CHROMINANCE PACK
OSD PACK
SENSOR LED
S-REEL
T-REEL
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

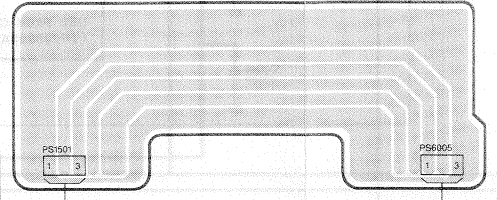
CAUTION

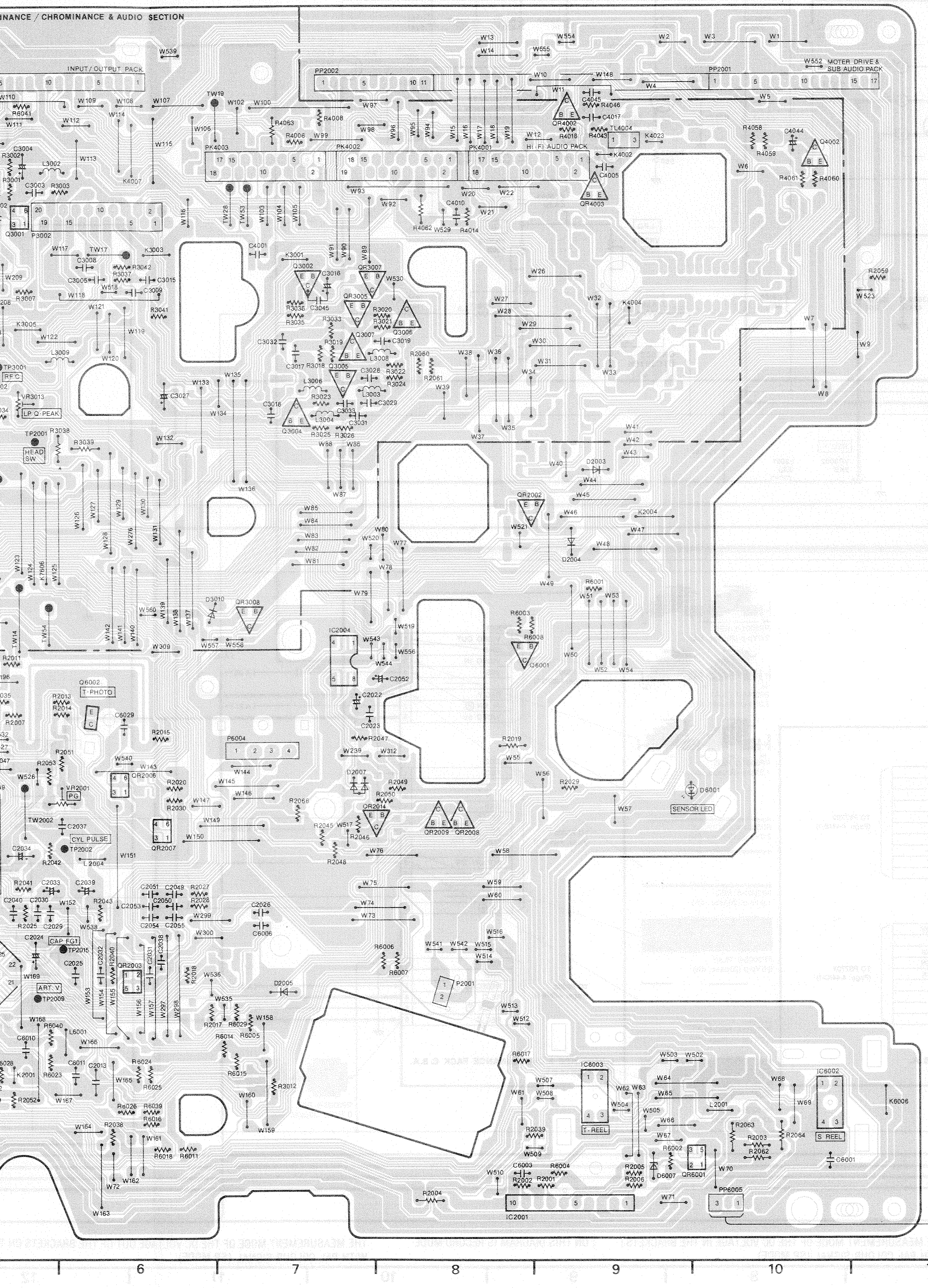
THE RED MARK INDICATES THE PRIMA
TO DISTINGUISH THE PRIMARY F
SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN
SHOCK DURING REPAIR AND SERVIC
PRODUCTS.

SAFETY TAB C.B.A. (VEP00U71A)


Q1501
S-PHOTO
SAFETY TAB
SW1501
PP1501

INTERFACE C.B.A. (VEP00U88A)

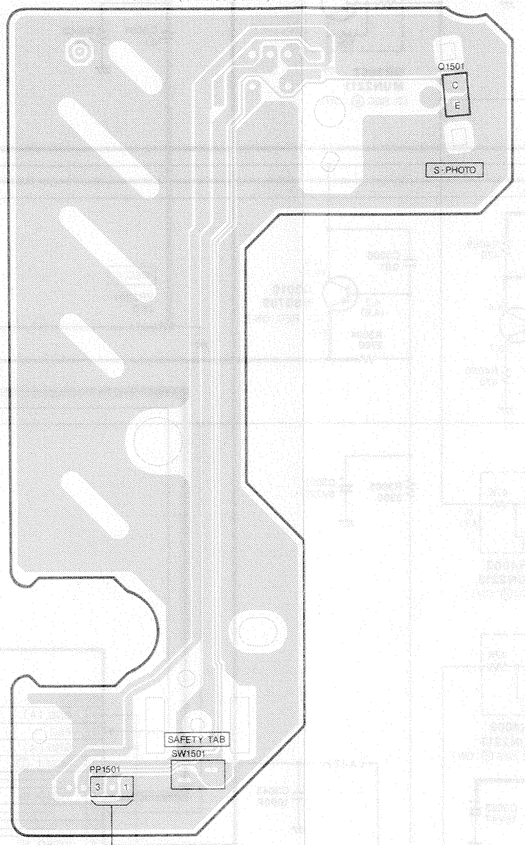

PS1501
PS6005


INANCE / CHROMINANCE & AUDIO SECTION
INPUT / OUTPUT PACK
MOTER DRIVE & SUB AUDIO PACK
HI-FI AUDIO PACK
PP2002
PP2001
PK4001
PK4002
PK4003
LP Q-PEAK
HEAD SW
T-PHOTO
PG
CYL PULSE
CAP FG1
ART-V
SENSOR LED
IC2004
IC6003
IC6002
IC2001
T-REEL
S-REEL
P2001
P6004
PP6005
6
7
8
9
10
11
12
13

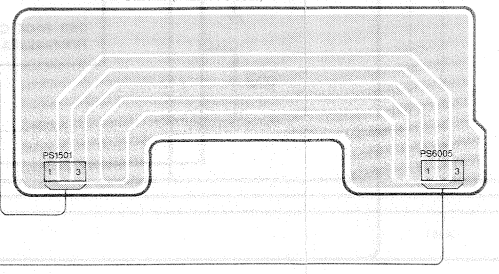
CAUTION

THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

SAFETY TAB C.B.A. (VEP00U71A)


Q1501
C
E
S-PHOTO
SAFETY TAB
SW1501
PP1501
3
1

INTERFACE C.B.A. (VEP00U8SA)


PS1501
PS6005
1
3

MAIN C.B.A. ADDRESS INFORMATION

SYSTEM CONTROL & SERVO SECTION	
Transistor	
Q1501	F-13
Q6001	D-9
Q6002	D-6
Transistor & Resistor	
QR2002	E-9
QR2003	B-6
QR2006	D-6
QR2007	C-6
QR2008	C-8
QR2009	C-8
QR2014	C-8
QR6001	A-10
QR6003	C-3
Integrated Circuit	
IC2001	A-8
IC2004	D-7
IC6001	C-5
IC6002	B-10
IC6003	B-9
Test Point	
TP2001	F-5
TP2002	C-6
TP2009	B-5
TP2015	B-6
TW7	E-4
TW54	D-5
TW2002	C-5
Adjustment	
VR2001	C-6
Connector	
P2001	B-8
P6001	A-3
P6004	D-7
PP1501	C-11
PP2001	H-10
PP2002	H-7
PP6005	A-10
PS1501	A-11
PS6005	A-13

ADDRESS INFORMATION

LUMINANCE/ CHROMINANCE & AUDIO SECTION	
Transistor	
Q3001	G-5
Q3002	G-7
Q3003	G-4
Q3004	F-7
Q3005	F-7
Q3006	F-8
Q3007	F-7
Q3010	F-5
Q4002	H-10
Transistor & Resistor	
QR3001	E-4
QR3002	F-5
QR3003	F-5
QR3005	G-7
QR3007	G-8
QR3008	E-7
QR4002	H-9
QR4003	G-9
Test Point	
TL4004	H-9
TP3001	F-5
TW6	G-5
TW14	D-5
TW15	E-5
TW17	G-6
TW19	H-7
TW28	G-7
TW53	G-7
TW2001	G-5
Adjustment	
VR3001	F-5
VR3002	F-5
VR3012	F-5
VR3013	F-5
Connector	
P3002	G-5
PP3001	G-4
PP3002	D-4
PP3003	C-4
PP3901	H-4
PP3902	H-5
PP7701	B-3
PP7702	B-4
PK4001	H-8
PK4002	H-7
PK4003	H-7

ADDRESS INFORMATION

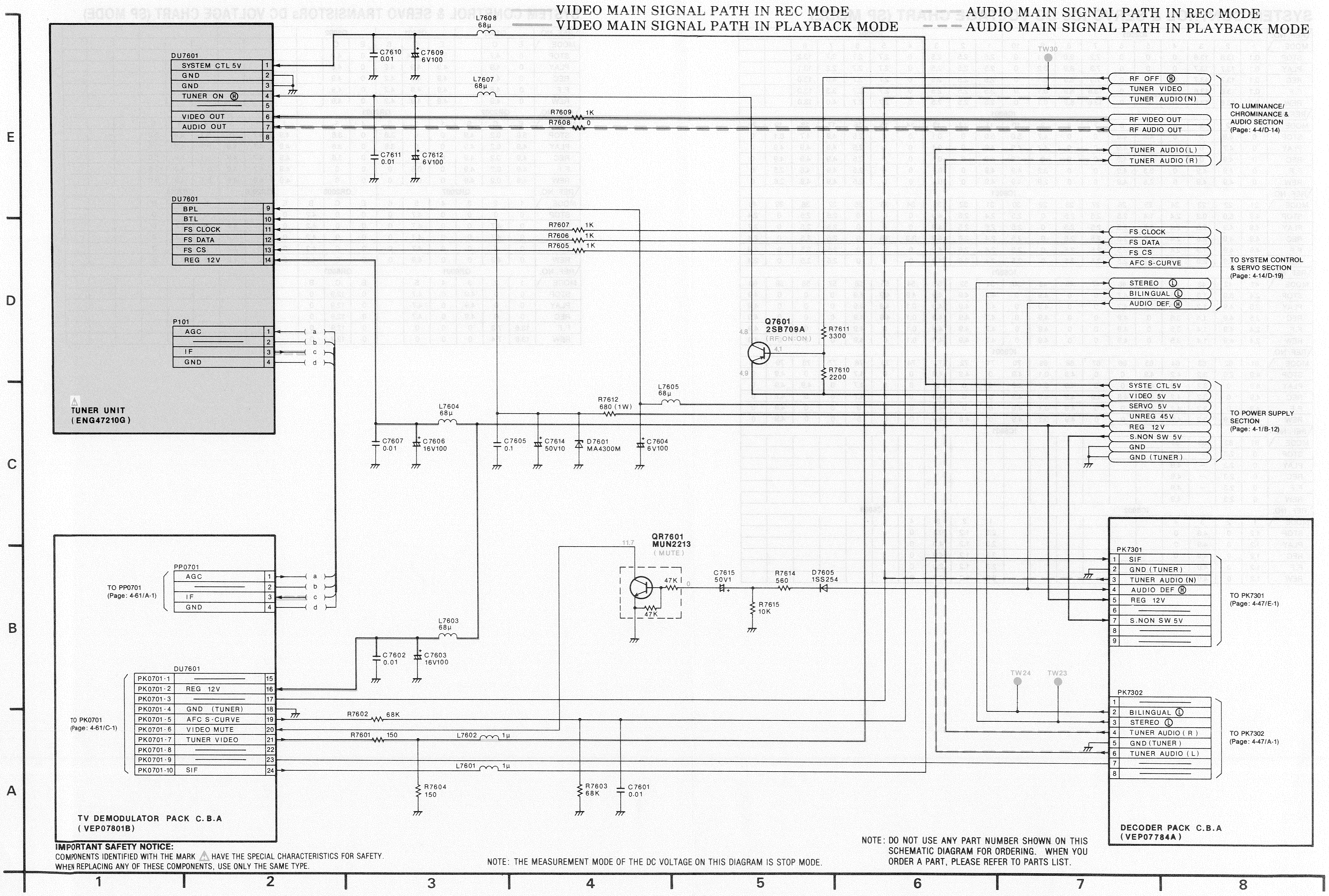
POWER SUPPLY SECTION	
Transistor	
Q1001	H-4
Q1002	B-3
Q1003	A-1
Q1004	A-2
Q1005	A-1
Q1006	B-3
Q1101	D-2
Q1102	E-2
Q1104	A-2
Q1105	D-2
Q1106	C-2
Q1107	D-2
Q1111	C-2
Transistor & Resistor	
QR1001	G-4
QR1002	A-1
QR1101	E-1
QR1102	A-1
QR1103	B-2
QR1104	E-2
QR1105	B-2
QR1106	B-2
Integrated Circuit	
IC1001	B-3
IC1101	E-1

ADDRESS INFORMATION

RF SECTION	
Transistor	
Q7601	G-3
Transistor & Resistor	
QR7601	D-3
Test Point	
TW23	G-4
TW24	G-4
TW30	H-4
Connector	
DU7601	H-3
DU7601	E-3
PK7301	E-3
PK7302	G-3

ADDRESS INFORMATION

4-4. RF SECTION IN MAIN SCHEMATIC DIAGRAM


VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
DU7601
SYSTEM CTL 5V
GND
GND
TUNER ON Ⓗ
VIDEO OUT
AUDIO OUT
BPL
BTL
FS CLOCK
FS DATA
FS CS
REG 12V
P101
AGC
IF
GND
TUNER UNIT
(ENG47210G)
L7608 68μ
C7610 0.01
C7609 6V100
L7607 68μ
R7609 1K
R7608 0
C7611 0.01
C7612 6V100
R7607 1K
R7606 1K
R7605 1K
Q7601 2SB709A (RF ON:ON)
4.8
4.9
4.1
R7611 3300
R7610 2200
L7605 68μ
R7612 680 (1W)
L7604 68μ
C7607 0.01
C7606 16V100
C7605 0.1
C7614 50V10
D7601 MA4300M
C7604 6V100
TW30
RF OFF Ⓗ
TUNER VIDEO
TUNER AUDIO(N)
RF VIDEO OUT
RF AUDIO OUT
TUNER AUDIO(L)
TUNER AUDIO(R)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION (Page: 4-4/D-14)
FS CLOCK
FS DATA
FS CS
AFC S-CURVE
STEREO Ⓛ
BILINGUAL Ⓛ
AUDIO DEF. Ⓗ
TO SYSTEM CONTROL & SERVO SECTION (Page: 4-14/D-19)
SYSTE CTL 5V
VIDEO 5V
SERVO 5V
UNREG 45V
REG 12V
S.NON SW 5V
GND
GND (TUNER)
TO POWER SUPPLY SECTION (Page: 4-1/B-12)
PP0701
AGC
IF
GND
TO PP0701 (Page: 4-61/A-1)
a
b
c
d
QR7601 MUN2213 (MUTE)
11.7
47K
47K
0
C7615 50V1
R7614 560
D7605 1SS254
R7615 10K
L7603 68μ
C7602 0.01
C7603 16V100
DU7601
PK0701-1
PK0701-2 REG 12V
PK0701-3
PK0701-4 GND (TUNER)
PK0701-5 AFC S-CURVE
PK0701-6 VIDEO MUTE
PK0701-7 TUNER VIDEO
PK0701-8
PK0701-9
PK0701-10 SIF
TO PK0701 (Page: 4-61/C-1)
R7602 68K
R7601 150
L7602 1μ
L7601 1μ
R7604 150
R7603 68K
C7601 0.01
TV DEMODULATOR PACK C.B.A
(VEP07801B)
PK7301
SIF
GND (TUNER)
TUNER AUDIO (N)
AUDIO DEF Ⓗ
REG 12V
S.NON SW 5V
TO PK7301 (Page: 4-47/E-1)
TW24
TW23
PK7302
BILINGUAL Ⓛ
STEREO Ⓛ
TUNER AUDIO (R)
GND (TUNER)
TUNER AUDIO (L)
TO PK7302 (Page: 4-47/A-1)
DECODER PACK C.B.A
(VEP07784A)
E
D
C
B
A
1
2
3
4
5
6
7
8

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2001										IC2004									
MODE	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8		
STOP	0.1	13.8	13.8	0	0	0	7.2	9.0	0.1	0	2.5	2.5	2.5	0	2.7	2.7	3.7	13.2		
PLAY	0.1	13.7	13.7	0	0	0	7.3	8.9	0.2	0	2.5	2.5	2.5	0	2.7	2.7	2.2	13.1		
REC	0.1	13.7	13.7	0	0	0	7.3	8.9	0.1	0	2.5	2.5	2.5	0	2.7	2.7	4.6	13.0		
F.F	0.1	13.6	13.6	0	0	0	13.6	8.9	0.1	0	2.5	2.5	2.5	0	2.7	2.7	3.3	13.0		
REW	0.1	13.6	13.6	0	0	0	13.6	8.9	0.1	0	2.5	2.5	2.5	0	2.7	2.7	4.0	13.0		

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.9	0	0	4.9	4.9	0	0	4.7	5.0	5.0	0	0.1	0	0	2.5	4.9	4.7	0.1	0
PLAY	0	4.7	0	0	4.9	4.9	0	0	4.7	4.9	4.9	0	0.1	0	0	2.5	4.9	4.9	4.9	0
REC	0	4.9	0	0	4.9	4.9	0	0	0	4.9	4.9	0	0.1	0	0	2.5	4.9	4.9	4.9	0
F.F	0	4.9	4.9	0	3.3	4.9	0	0	3.2	4.9	4.9	0	0.1	0	0	2.5	4.9	4.6	2.5	0
REW	0	4.9	4.9	0	2.8	4.9	0	0	2.9	4.9	4.9	0	0.1	0	0	2.5	4.9	4.9	2.6	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	4.9	5.0	0.2	2.4	1.4	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	0	0	0	2.5	2.5	0	2.4
PLAY	4.9	4.9	2.5	2.4	3.2	2.5	2.5	2.5	0	2.5	2.6	2.5	4.9	0	0	0	2.5	2.5	0	2.7
REC	4.9	4.9	2.5	2.4	0.8	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	3.3	3.5	0	2.5	2.5	0	2.4
F.F	4.9	4.9	1.9	2.4	1.4	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	0	0	0	2.5	2.5	0	2.8
REW	4.9	4.9	2.0	2.4	2.7	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	0	0	0	2.5	2.5	0	2.4

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.4	5.0	1.3	3.5	0	4.7	0	0	4.9	0	4.7	4.9	4.9	4.9	4.9	4.9	0	0	0	4.9
PLAY	2.5	4.9	1.2	3.2	3.7	4.7	0	0	4.9	0	4.7	4.9	4.9	0.1	4.9	4.9	0	0	0	4.9
REC	2.5	4.9	1.4	3.6	0	4.9	0	0	4.9	0	4.7	4.9	4.9	0.1	4.9	4.9	0	0	0	4.9
F.F	2.4	4.9	1.4	3.5	0	4.9	0	0	4.9	0	4.7	4.9	4.9	0.1	0	4.9	0	0	0	4.9
REW	2.4	4.9	1.4	3.5	0	4.9	0	0	4.9	0	4.7	4.9	4.9	0.1	0	4.9	0	0	0	4.9

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	4.9	2.0	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	4.9	4.9	0	0	4.7	0	0	4.9	0
PLAY	4.9	0	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	0	0	0	0	4.7	0	4.9	4.9	0
REC	4.9	0	3.2	4.2	4.9	4.8	4.9	4.9	4.9	4.9	0	0	4.9	0	0	4.7	0	0	4.9	0
F.F	4.9	0	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	0	4.9	0	0	0	0	0	4.9	0
REW	4.9	4.9	3.2	4.2	4.9	0	0	4.9	0.1	4.9	0	4.9	4.9	0	0	0	0	0	4.9	0

REF. NO.	IC6001																			
MODE	81	82	83	84																
STOP	0	2.3	–	4.9																
PLAY	0	2.3	–	4.9																
REC	0	2.3	–	4.9																
F.F	0	2.3	–	4.9																
REW	0	2.3		4.9																

REF. NO.	IC6002										IC6003									
MODE	1	2	3	4							1	2	3	4						
STOP	1.2	0	4.9	0							2.3	1.2	0.1	0						
PLAY	1.2	0	4.9	0							2.3	1.2	4.9	0						
REC	1.2	0	4.9	0							2.3	1.2	4.9	0						
F.F	1.2	0	4.0	0							2.3	1.2	2.6	0						
REW	1.2	0	4.9	0							2.3	1.2	2.6	0						

SYSTEM CONRTROL & SERVO TRANSISTORs DC VOLTAGE CHART (SP MODE)

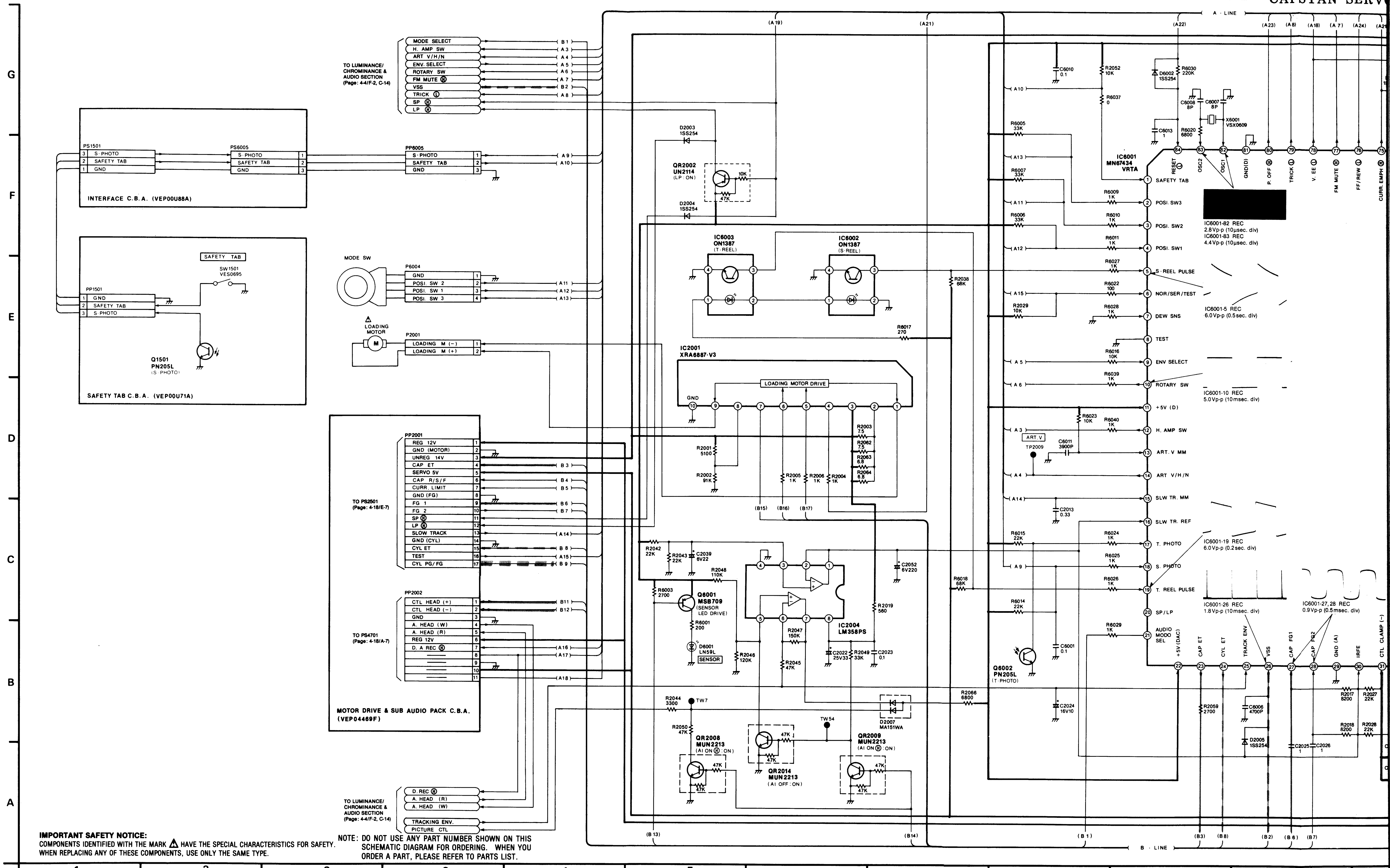
REF. NO.	Q1501			Q6001			Q6002											
MODE	E	C		E	C	B	E	C										
STOP	0	4.7		5.0	−0.4	5.0	0	4.9										
PLAY	0	4.9		4.9	4.9	4.2	0	4.9										
REC	0	4.9		4.9	4.9	4.2	0	4.9										
F.F	0	4.6		4.9	4.9	4.2	0	4.9										
REW	0	4.9		4.9	4.9	4.2	0	4.9										

REF. NO.	QR2002			QR2003						QR2006								
MODE	E	C	B	1	2	3	4	5		1	2	3	4	5	6			
STOP	5.0	0.2	4.9	0	0	3.6	0	3.6		4.9	4.7	0	5.1	4.9	5.0			
PLAY	4.9	0.2	4.9	0	0	3.6	0	3.6		4.9	4.7	4.9	5.1	4.9	5.0			
REC	4.9	0.2	4.9	0	0	3.6	0	3.6		4.9	4.7	4.9	5.1	4.9	5.0			
F.F	4.9	0.2	4.9	0	0.8	0	0	0		4.9	4.7	4.9	5.1	4.9	5.0			
REW	4.9	0.2	4.9	0	0.8	0	0	0		4.9	4.9	4.9	5.1	4.9	5.0			

REF. NO.	QR2007						QR2008			QR2009			QR2014					
MODE	1	2	3	4	5	6	E	C	B	E	C	B	E	C	B			
STOP	0	0	0	0	4.7	0	0	0	4.2	0	0	4.2	0	2.7	0			
PLAY	0	4.7	0	0	4.7	0	0	0	4.2	0	0	4.2	0	2.7	0			
REC	0	4.7	0	0	4.7	0	0	0	4.2	0	0	4.2	0	2.7	0			
F.F	0	0	0	0	4.7	0	0	0	4.2	0	0	4.2	0	2.7	0			
REW	0	4.9	0	0	4.9	0	0	0	4.2	0	0	4.2	0	2.7	0			

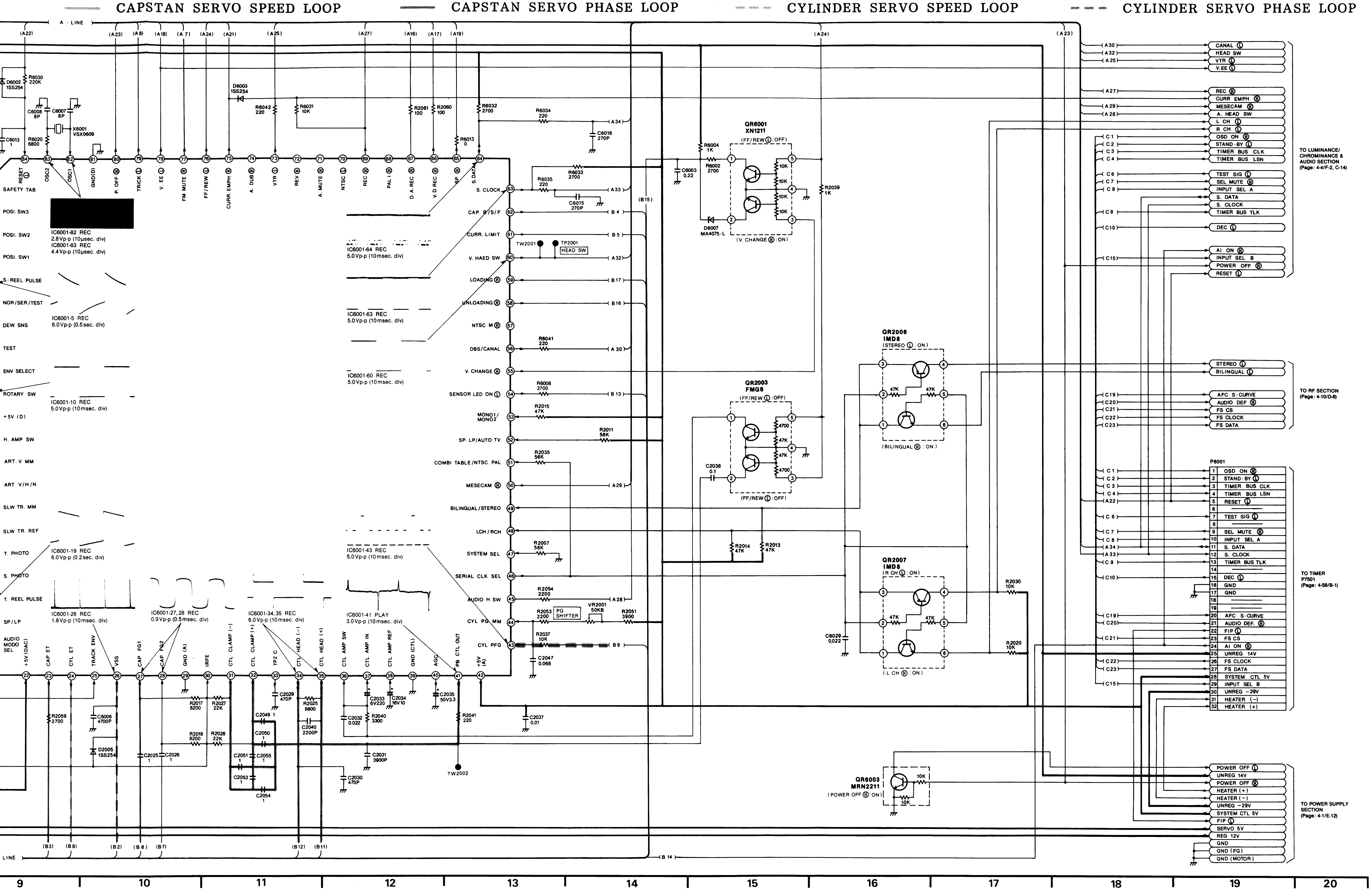
REF. NO.	QR6001						QR6003											
MODE	1	2	3	4	5		E	C	B									
STOP	0	0	4.9	0	4.7		0	12.9	0									
PLAY	0	0	4.9	0	4.7		0	12.9	0									
REC	0	0	4.9	0	4.7		0	12.9	0									
F.F	13.6	7.3	0	0	0		0	12.9	0									
REW	13.6	7.4	0	0	0		0	12.9	0									

4-5. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM


CAPSTAN SERV
A · LINE
B · LINE
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION (Page: 4-4/F-2, C-14)
MODE SELECT
H. AMP SW
ART V/H/N
ENV. SELECT
ROTARY SW
FM MUTE Ⓗ
VSS
TRICK Ⓛ
SP Ⓗ
LP Ⓗ
PS1501
S·PHOTO
SAFETY TAB
GND
PS6005
PP6005
INTERFACE C.B.A. (VEP00U88A)
SAFETY TAB
SW1501 VES0695
PP1501
Q1501 PN205L (S·PHOTO)
SAFETY TAB C.B.A. (VEP00U71A)
MODE SW
P6004
POSI. SW 2
POSI. SW 1
POSI. SW 3
LOADING MOTOR
P2001
LOADING M (−)
LOADING M (+)
PP2001
REG 12V
GND (MOTOR)
UNREG 14V
CAP ET
SERVO 5V
CAP R/S/F
CURR. LIMIT
GND (FG)
FG 1
FG 2
SLOW TRACK
GND (CYL)
CYL ET
TEST
CYL PG/FG
TO PS2501 (Page: 4-18/E-7)
PP2002
CTL HEAD (+)
CTL HEAD (−)
A. HEAD (W)
A. HEAD (R)
D. A REC Ⓗ
TO PS4701 (Page: 4-18/A-7)
MOTOR DRIVE & SUB AUDIO PACK C.B.A. (VEP04469F)
D. REC Ⓗ
TRACKING ENV.
PICTURE CTL
D2003 1SS254
QR2002 UN2114 (LP: ON)
D2004 1SS254
IC6003 ON1387 (T·REEL)
IC6002 ON1387 (S·REEL)
IC2001 XRA6887-V3
LOADING MOTOR DRIVE
R2038 68K
R6017 270
R2001 5100
R2002 91K
R2003 7.5
R2062 7.5
R2063 6.8
R2064 6.8
R2005 1K
R2006 1K
R2004 1K
R2042 22K
R2043 22K
C2039 6V22
R2048 110K
C2052 6V220
R6003 2700
Q6001 MSB709 (SENSOR LED DRIVE)
R6001 200
D6001 LN59L SENSOR
IC2004 LM358PS
R2046 120K
R2047 150K
R2045 47K
C2022 25V33
R2049 33K
C2023 0.1
R2019 560
R6018 68K
R2044 3300
TW7
R2050 47K
QR2008 MUN2213 (AI ON Ⓗ: ON)
QR2014 MUN2213 (AI OFF: ON)
TW54
QR2009 MUN2213 (AI ON Ⓗ: ON)
D2007 MA151WA
R2066 6800
C6010 0.1
R2052 10K
R6037 0
D6002 1SS254
R6030 220K
C6008 8P
C6007 8P
X6001 VSX0609
C6013 1
R6020 6800
IC6001 MN67434 VRTA
R6005 33K
R6007 33K
R6006 33K
R6009 1K
R6010 1K
R6011 1K
R6027 1K
R6022 100
R2029 10K
R6028 1K
R6016 10K
R6039 1K
R6023 10K
R6040 1K
ART V TP2009
C6011 3900P
C2013 0.33
R6015 22K
R6024 1K
R6025 1K
R6026 1K
R6014 22K
R6029 1K
Q6002 PN205L (T·PHOTO)
C6001 0.1
C2024 16V10
R2059 2700
C6006 4700P
D2005 1SS254
C2025 1
C2026 1
R2017 8200
R2027 22K
R2018 8200
R2028 22K
SAFETY TAB
POSI. SW3
POSI. SW2
POSI. SW1
S·REEL PULSE
NOR/SER/TEST
DEW SNS
TEST
ENV SELECT
ROTARY SW
+5V (D)
H. AMP SW
ART. V MM
ART V/H/N
SLW TR. MM
SLW TR. REF
T. PHOTO
S. PHOTO
T. REEL PULSE
SP/LP
AUDIO MODO SEL
RESET
OSC2
OSC1
GND(D)
P. OFF Ⓗ
TRICK Ⓛ
V. EE Ⓛ
FM MUTE Ⓗ
FF/REW Ⓛ
CURR. EMPH Ⓗ
+5V (DAC)
CAP ET
CYL ET
TRACK ENV
VSS
CAP FG1
CAP FG2
GND (A)
IRFE
CTL CLAMP (−)
IC6001-82 REC 2.8Vp-p (10μsec. div)
IC6001-83 REC 4.4Vp-p (10μsec. div)
IC6001-5 REC 6.0Vp-p (0.5sec. div)
IC6001-10 REC 5.0Vp-p (10msec. div)
IC6001-19 REC 6.0Vp-p (0.2sec. div)
IC6001-26 REC 1.8Vp-p (10msec. div)
IC6001-27, 28 REC 0.9Vp-p (0.5msec. div)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

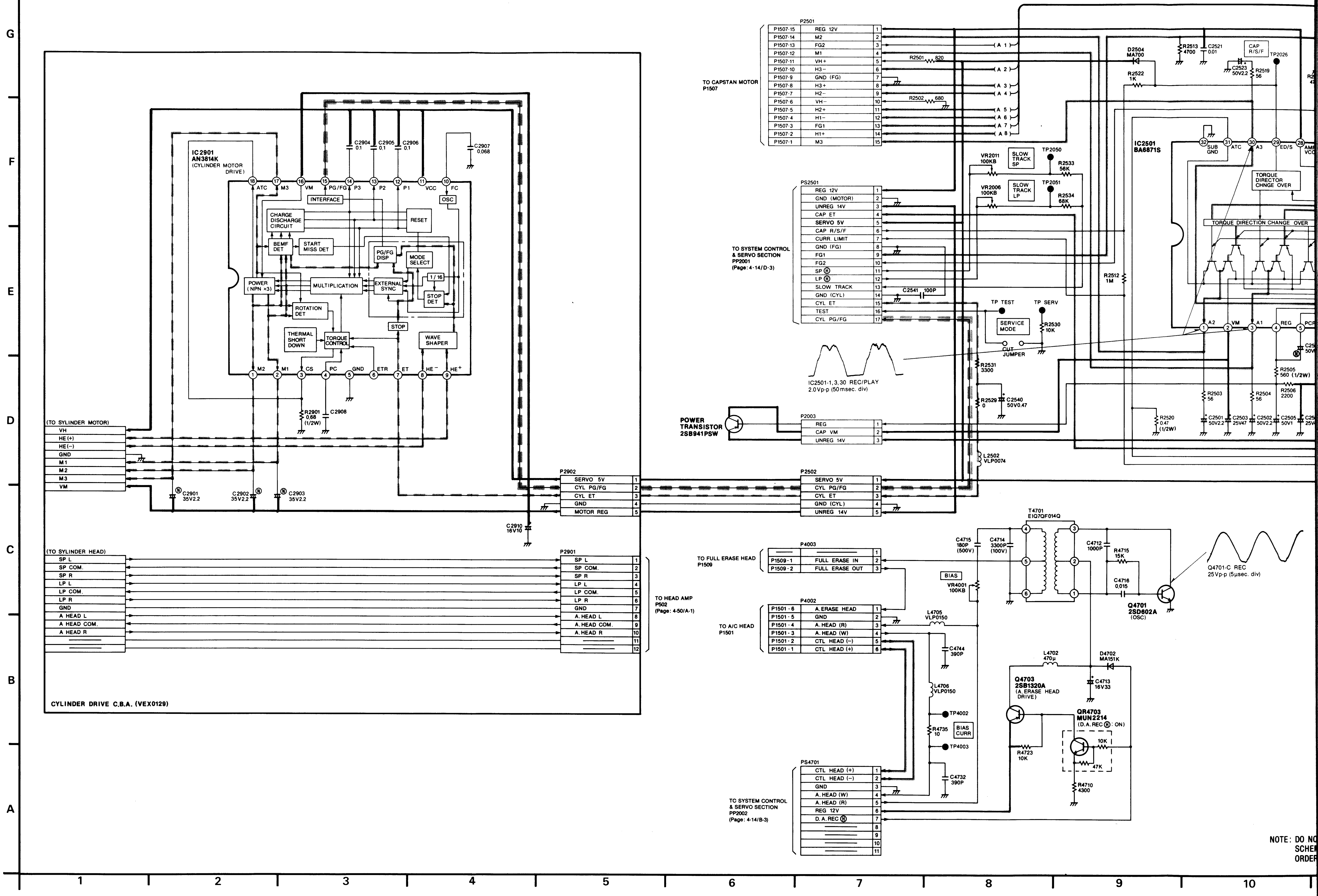
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
A · LINE
(A22) (A23) (A8) (A18) (A7) (A24) (A21) (A25) (A27) (A16) (A17) (A19) (A24) (A23)
D6002 1SS254
R6030 220K
D6003 1SS254
R6042 220
R6031 10K
R6061 100
R6060 100
R6032 2700
R6034 220
C6016 270P
C6008 8P
C6007 8P
X6001 VSX0609
C6013 1
R6020 6800
R6013 0
RESET
OSC2
OSC1
GND(D)
P. OFF
TRICK
V. EE
FM MUTE
FF/REW
CURR. EMPH
A. DUB
VTR
REV
A. MUTE
NTSC
REC
PAL I
D.A.REC
V.D.REC
SP
S. DATA
SAFETY TAB
POSI. SW3
POSI. SW2
POSI. SW1
S·REEL PULSE
NOR/SER/TEST
DEW SNS
TEST
ENV SELECT
ROTARY SW
+5V (D)
H. AMP SW
ART. V MM
ART V/H/N
SLW TR. MM
SLW TR. REF
T. PHOTO
S. PHOTO
T. REEL PULSE
SP/LP
AUDIO MODO SEL
IC6001-82 REC
2.8Vp-p (10μsec. div)
IC6001-83 REC
4.4Vp-p (10μsec. div)
IC6001-5 REC
6.0Vp-p (0.5sec. div)
IC6001-10 REC
5.0Vp-p (10msec. div)
IC6001-19 REC
6.0Vp-p (0.2sec. div)
IC6001-26 REC
1.8Vp-p (10msec. div)
IC6001-27, 28 REC
0.9Vp-p (0.5msec. div)
IC6001-34, 35 REC
6.0Vp-p (10msec. div)
IC6001-41 PLAY
3.0Vp-p (10msec. div)
IC6001-43 REC
5.0Vp-p (10msec. div)
IC6001-60 REC
5.0Vp-p (10msec. div)
IC6001-63 REC
5.0Vp-p (10msec. div)
IC6001-64 REC
5.0Vp-p (10msec. div)
S. CLOCK
CAP. R/S/F
CURR. LIMIT
V. HAED SW
LOADING
UNLOADING
NTSC M
DBS/CANAL
V. CHANGE
SENSOR LED ON
MONO1/MONO2
SP. LP/AUTO TV
COMBI TABLE/NTSC. PAL
MESECAM
BILINGUAL/STEREO
LCH/RCH
SYSTEM SEL
SERIAL CLK SEL
AUDIO H SW
CYL PG MM
CYL PFG
TW2001
TP2001
HEAD SW
R6035 220
R6033 2700
C6015 270P
R6041 220
R6008 2700
R2015 47K
R2011 56K
R2035 56K
R2007 56K
R2054 2200
R2053 2200
PG SHIFTER
VR2001 50KB
R2051 3900
R2037 10K
C2047 0.068
+5V (DAC)
CAP ET
CYL ET
TRACK ENV
VSS
CAP FG1
CAP FG2
GND (A)
IRFE
CTL CLAMP (−)
CTL CLAMP (+)
TPZ C
CTL HEAD (−)
CTL HEAD (+)
CTL AMP SW
CTL AMP IN
CTL AMP REF
GND (CTL)
AGC
PB CTL OUT
+5V (A)
R2059 2700
C6006 4700P
D2005 1SS254
C2025 1
C2026 1
R2017 8200
R2027 22K
R2018 8200
R2028 22K
C2029 470P
R2025 6800
C2040 2200P
C2049 1
C2050 1
C2051 1
C2055 1
C2053 1
C2054 1
C2032 0.022
C2033 6V220
C2034 16V10
R2040 3300
C2035 50V3.3
R2041 220
C2031 3900P
C2030 470P
C2037 0.01
TW2002
(B3) (B8) (B2) (B6) (B7) (B12) (B11)
LINE
(B14)
(B15)
(A34) (A33) (B4) (B5) (A32) (B17) (B16) (A30) (B13) (A29) (A28) (B9)
C6003 0.22
R6004 1K
R6002 2700
QR6001 XN1211
(FF/REW Ⓛ : OFF)
D6007 MA4075-L
(V. CHANGE Ⓗ : ON)
10K
R2039 1K
QR2003 FMG8
(FF/REW Ⓛ : OFF)
4700
47K
C2038 0.1
R2014 47K
R2013 47K
QR2006 IMD8
(STEREO Ⓛ : ON)
(BILINGUAL Ⓗ : ON)
QR2007 IMD8
(R CH Ⓛ : ON)
(L CH Ⓗ : ON)
C6029 0.022
R2030 10K
R2020 10K
QR6003 MRN2211
(POWER OFF Ⓗ : ON)
(A30) CANAL Ⓛ
(A32) HEAD SW
(A25) VTR Ⓛ
V.EE Ⓛ
(A27) REC Ⓗ
CURR EMPH Ⓗ
(A29) MESECAM Ⓗ
(A28) A. HEAD SW
L CH Ⓛ
R CH Ⓛ
(C1) OSD ON Ⓗ
(C2) STAND·BY Ⓛ
(C3) TIMER BUS CLK
(C4) TIMER BUS LSN
(C6) TEST SIG Ⓛ
(C7) SEL MUTE Ⓗ
(C8) INPUT SEL A
S. DATA
S. CLOCK
(C9) TIMER BUS TLK
(C10) DEC Ⓛ
AI ON Ⓗ
(C15) INPUT SEL B
POWER OFF Ⓗ
RESET Ⓛ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION (Page: 4-4/F-2, C-14)
STEREO Ⓛ
BILINGUAL Ⓛ
(C19) AFC S·CURVE
(C20) AUDIO DEF Ⓗ
(C21) FS CS
(C22) FS CLOCK
(C23) FS DATA
TO RF SECTION (Page: 4-10/D-8)
P6001
1 OSD ON Ⓗ
2 STAND·BY Ⓛ
3 TIMER BUS CLK
4 TIMER BUS LSN
5 RESET Ⓛ
6
7 TEST SIG Ⓛ
8
9 SEL MUTE Ⓗ
10 INPUT SEL A
11 S. DATA
12 S. CLOCK
13 TIMER BUS TLK
14
15 DEC Ⓛ
16 GND
17 GND
18
19
20 AFC S·CURVE
21 AUDIO DEF. Ⓗ
22 FIP Ⓛ
23 FS CS
24 AI ON Ⓗ
25 UNREG 14V
26 FS CLOCK
27 FS DATA
28 SYSTEM CTL 5V
29 INPUT SEL B
30 UNREG −29V
31 HEATER (−)
32 HEATER (+)
TO TIMER P7501 (Page: 4-58/B-1)
POWER OFF Ⓛ
UNREG 14V
POWER OFF Ⓗ
HEATER (+)
HEATER (−)
UNREG −29V
SYSTEM CTL 5V
FIP Ⓛ
SERVO 5V
REG 12V
GND
GND (FG)
GND (MOTOR)
TO POWER SUPPLY SECTION (Page: 4-1/E-12)
9 10 11 12 13 14 15 16 17 18 19 20

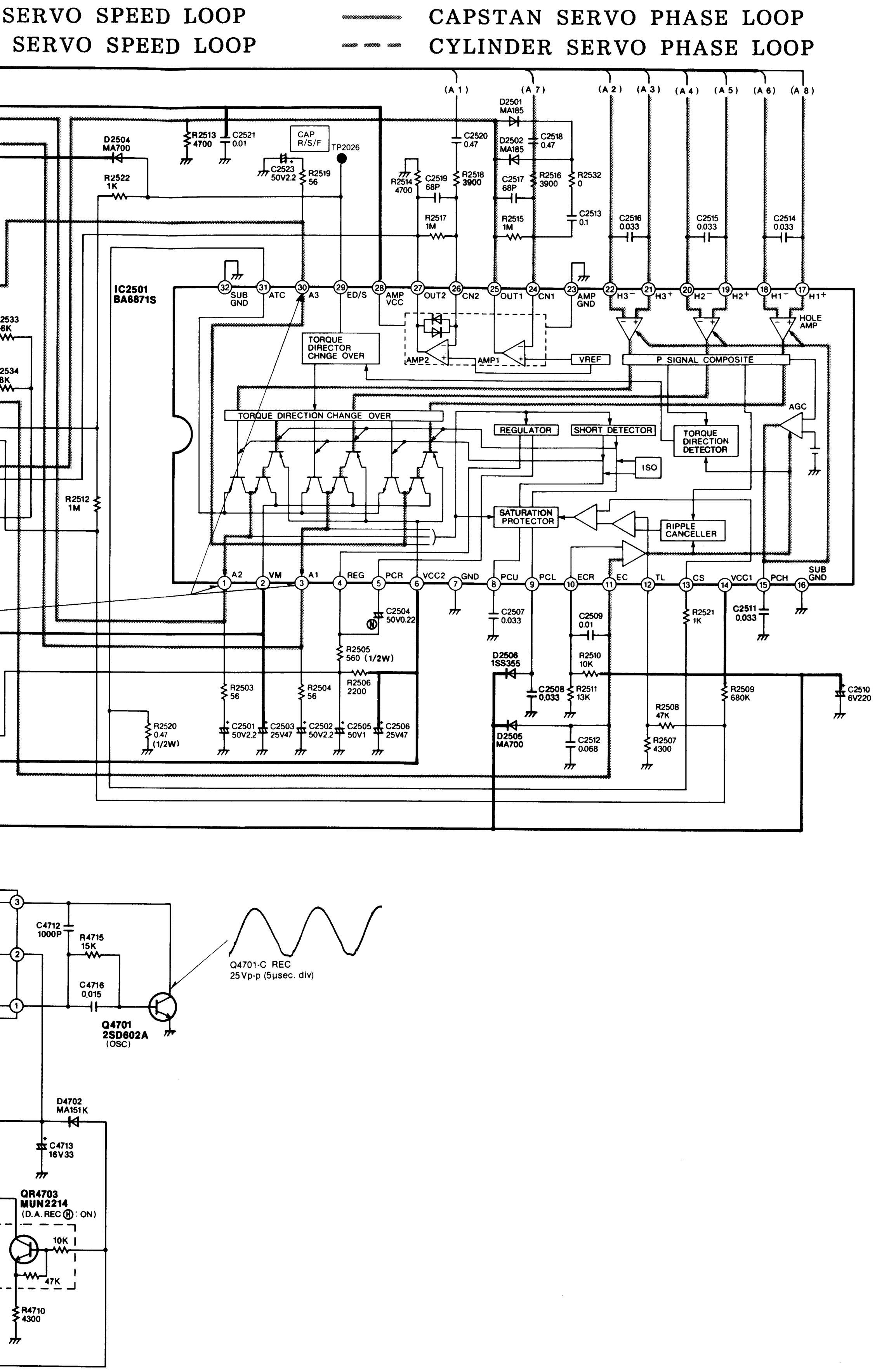
[redacted]

4-6. MOTOR DRIVE & SUB AUDIO PACK SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP
CYLINDER SERVO SPEED LOOP


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
IC2901
AN3814K
(CYLINDER MOTOR DRIVE)
ATC
M3
VM
PG/FG
P3
P2
P1
VCC
FC
INTERFACE
OSC
CHARGE DISCHARGE CIRCUIT
RESET
BEMF DET
START MISS DET
PG/FG DISP
MODE SELECT
1/16
POWER (NPN ×3)
MULTIPLICATION
EXTERNAL SYNC
STOP DET
ROTATION DET
THERMAL SHORT DOWN
TORQUE CONTROL
STOP
WAVE SHAPER
M2
M1
CS
PC
GND
ETR
ET
HE−
HE+
C2904 0.1
C2905 0.1
C2906 0.1
C2907 0.068
R2901 0.68 (1/2W)
C2908
C2901 35V2.2
C2902 35V2.2
C2903 35V2.2
C2910 16V10
(TO SYLINDER MOTOR)
VH
HE(+)
HE(−)
GND
M1
M2
M3
VM
P2902
SERVO 5V
CYL PG/FG
CYL ET
GND
MOTOR REG
(TO SYLINDER HEAD)
SP L
SP COM.
SP R
LP L
LP COM.
LP R
GND
A HEAD L
A HEAD COM.
A HEAD R
P2901
TO HEAD AMP P502 (Page: 4-50/A-1)
CYLINDER DRIVE C.B.A. (VEX0129)
P2501
TO CAPSTAN MOTOR P1507
P1507-15 REG 12V
P1507-14 M2
P1507-13 FG2
P1507-12 M1
P1507-11 VH+
P1507-10 H3−
P1507-9 GND (FG)
P1507-8 H3+
P1507-7 H2−
P1507-6 VH−
P1507-5 H2+
P1507-4 H1−
P1507-3 FG1
P1507-2 H1+
P1507-1 M3
R2501 820
R2502 680
A1
A2
A3
A4
A5
A6
A7
A8
PS2501
TO SYSTEM CONTROL & SERVO SECTION PP2001 (Page: 4-14/D-3)
REG 12V
GND (MOTOR)
UNREG 14V
CAP ET
SERVO 5V
CAP R/S/F
CURR. LIMIT
GND (FG)
FG1
FG2
SP Ⓗ
LP Ⓗ
SLOW TRACK
GND (CYL)
CYL ET
TEST
CYL PG/FG
C2541 100P
VR2011 100KB
SLOW TRACK SP
TP2050
R2533 56K
VR2006 100KB
SLOW TRACK LP
TP2051
R2534 68K
TP TEST
TP SERV
SERVICE MODE
R2530 10K
CUT JUMPER
R2531 3300
R2529 0
C2540 50V0.47
IC2501-1, 3, 30 REC/PLAY
2.0Vp-p (50msec. div)
POWER TRANSISTOR 2SB941PSW
P2003
REG
CAP VM
UNREG 14V
L2502 VLP0074
P2502
SERVO 5V
CYL PG/FG
CYL ET
GND (CYL)
UNREG 14V
D2504 MA700
R2513 4700
C2521 0.01
CAP R/S/F
TP2026
C2523 50V2.2
R2519 56
R2522 1K
IC2501 BA6871S
SUB GND
ATC
A3
ED/S
TORQUE DIRECTOR CHNGE OVER
TORQUE DIRECTION CHANGE OVER
R2512 1M
A2
VM
A1
REG
R2505 560 (1/2W)
R2506 2200
R2503 56
R2504 56
R2520 0.47 (1/2W)
C2501 50V2.2
C2503 25V47
C2502 50V2.2
C2505 50V1
T4701 EIQ7QF014Q
C4715 180P (500V)
C4714 3300P (100V)
C4712 1000P
R4715 15K
C4716 0.015
Q4701 2SD602A (OSC)
Q4701-C REC
25Vp-p (5μsec. div)
P4003
TO FULL ERASE HEAD P1509
P1509-1 FULL ERASE IN
P1509-2 FULL ERASE OUT
BIAS
VR4001 100KB
P4002
TO A/C HEAD P1501
P1501-6 A.ERASE HEAD
P1501-5 GND
P1501-4 A.HEAD (R)
P1501-3 A.HEAD (W)
P1501-2 CTL HEAD (−)
P1501-1 CTL HEAD (+)
L4705 VLP0150
C4744 390P
L4706 VLP0150
TP4002
R4735 10
BIAS CURR
TP4003
C4732 390P
L4702 470μ
D4702 MA151K
C4713 16V33
Q4703 2SB1320A (A. ERASE HEAD DRIVE)
QR4703 MUN2214 (D.A. REC Ⓗ: ON)
10K
47K
R4723 10K
R4710 4300
PS4701
TO SYSTEM CONTROL & SERVO SECTION PP2002 (Page: 4-14/B-3)
CTL HEAD (+)
CTL HEAD (−)
GND
A. HEAD (W)
A. HEAD (R)
REG 12V
D. A. REC Ⓗ

NOTE: DO NO
SCHE
ORDE


SERVO SPEED LOOP
SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO PHASE LOOP
(A 1)
(A 7)
(A 2)
(A 3)
(A 4)
(A 5)
(A 6)
(A 8)
D2504 MA700
R2513 4700
C2521 0.01
CAP R/S/F
TP2026
C2523 50V2.2
R2519 56
R2522 1K
R2514 4700
C2519 68P
R2518 3900
C2520 0.47
R2517 1M
D2501 MA185
D2502 MA185
C2518 0.47
C2517 68P
R2516 3900
R2532 0
R2515 1M
C2513 0.1
C2516 0.033
C2515 0.033
C2514 0.033
IC2501 BA6871S
SUB GND
ATC
A3
ED/S
AMP VCC
OUT2
CN2
OUT1
CN1
AMP GND
H3−
H3+
H2−
H2+
H1−
H1+
HOLE AMP
TORQUE DIRECTOR CHNGE OVER
AMP2
AMP1
VREF
P SIGNAL COMPOSITE
TORQUE DIRECTION CHANGE OVER
REGULATOR
SHORT DETECTOR
TORQUE DIRECTION DETECTOR
AGC
ISO
SATURATION PROTECTOR
RIPPLE CANCELLER
A2
VM
A1
REG
PCR
VCC2
GND
PCU
PCL
ECR
EC
TL
CS
VCC1
PCH
SUB GND
2533 6K
2534 8K
R2512 1M
C2504 50V0.22
R2505 560 (1/2W)
R2506 2200
C2507 0.033
D2506 1SS355
C2509 0.01
R2510 10K
C2508 0.033
R2511 13K
D2505 MA700
C2512 0.068
R2521 1K
C2511 0.033
R2508 47K
R2507 4300
R2509 680K
C2510 6V220
R2503 56
R2504 56
R2520 0.47 (1/2W)
C2501 50V2.2
C2503 25V47
C2502 50V2.2
C2505 50V1
C2506 25V47
C4712 1000P
R4715 15K
C4716 0.015
Q4701 2SD602A (OSC)
Q4701-C REC 25Vp-p (5µsec. div)
D4702 MA151K
C4713 16V33
QR4703 MUN2214 (D.A. REC Ⓗ: ON)
10K
47K
R4710 4300
9
10
11
12
13

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

MOTOR DRIVE & SUB AUDIO PACK ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.6	4.4	0.6	13.2	0.1	13.9	0	4.5	0.7	2.8	0.2	0.4	0	4.9	1.5	0	2.3	2.3	2.3	2.2
PLAY	2.6	4.3	2.6	12.4	1.9	13.6	0	0.7	0.7	2.8	2.5	0.4	0.1	4.9	1.5	0	2.3	2.3	2.3	2.3
REC	2.7	4.3	2.7	12.4	2.0	13.6	0	0.7	0.7	2.8	2.5	0.4	0.1	5.0	1.5	0	2.3	2.3	2.3	2.3
F.F	7.5	13.4	7.5	4.3	11.6	13.5	0.1	0.8	0.8	2.8	2.0	0.5	0.2	4.9	1.5	0	2.3	2.3	2.3	2.3
REW	7.0	13.5	7.0	6.9	11.7	13.6	0	0.7	0.8	2.8	2.3	0.5	0.1	4.9	1.5	0	2.3	2.3	2.3	2.3

REF. NO.	IC2501																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
STOP	2.2	2.3	0	6.3	6.3	6.3	6.3	12.3	2.0	0.6	0	0								
PLAY	2.3	2.3	0	6.3	6.3	6.3	6.3	12.3	0	2.6	0	0								
REC	2.3	2.3	0	6.3	6.3	6.3	6.3	12.3	0	2.6	0.1	0								
F.F	2.3	2.3	0	6.3	6.3	6.3	6.3	12.3	0	7.5	0.2	0								
REW	2.3	2.3	0	6.3	6.3	6.3	6.3	12.3	4.9	7.4	0.2	0								

REF. NO.	IC2901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	13.1	13.1	0.1	0.6	0	2.5	2.4	2.6	2.5	2.6	4.9	3.7	3.6	3.7	1.3	13.8	13.3	0.1		
PLAY	13.8	12.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.4	13.6	13.7	0.2		
REC	13.7	13.7	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.8	3.7	3.7	1.5	13.6	13.7	0.2		
F.F	13.8	13.8	0.1	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.8	3.7	3.7	1.5	13.5	13.7	0.1		
REW	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2		

MOTOR DRIVE & SUB AUDIO PACK PINs DC VOLTAGE CHART (SP MODE)

REF. NO.	PS2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
STOP	12.3	0	13.8	0.2	4.9	2.0	4.9	0	6.3	6.3	4.4	0	0	0	2.4	5.0	1.4			
PLAY	12.3	0	13.6	2.5	4.9	0	4.9	0	6.3	6.3	4.4	0	0	0	2.4	4.9	1.4			
REC	12.3	0	13.6	2.5	4.9	0	4.9	0	6.3	6.3	4.4	0	0	0	2.4	4.9	1.4			
F.F	12.3	0	13.5	2.1	4.9	0	4.9	0	6.3	6.3	4.4	0	0	0	2.4	4.9	1.4			
REW	12.3	0	13.5	2.1	4.9	4.9	4.9	0	6.3	6.3	4.4	0	0	0	2.4	4.9	1.4			

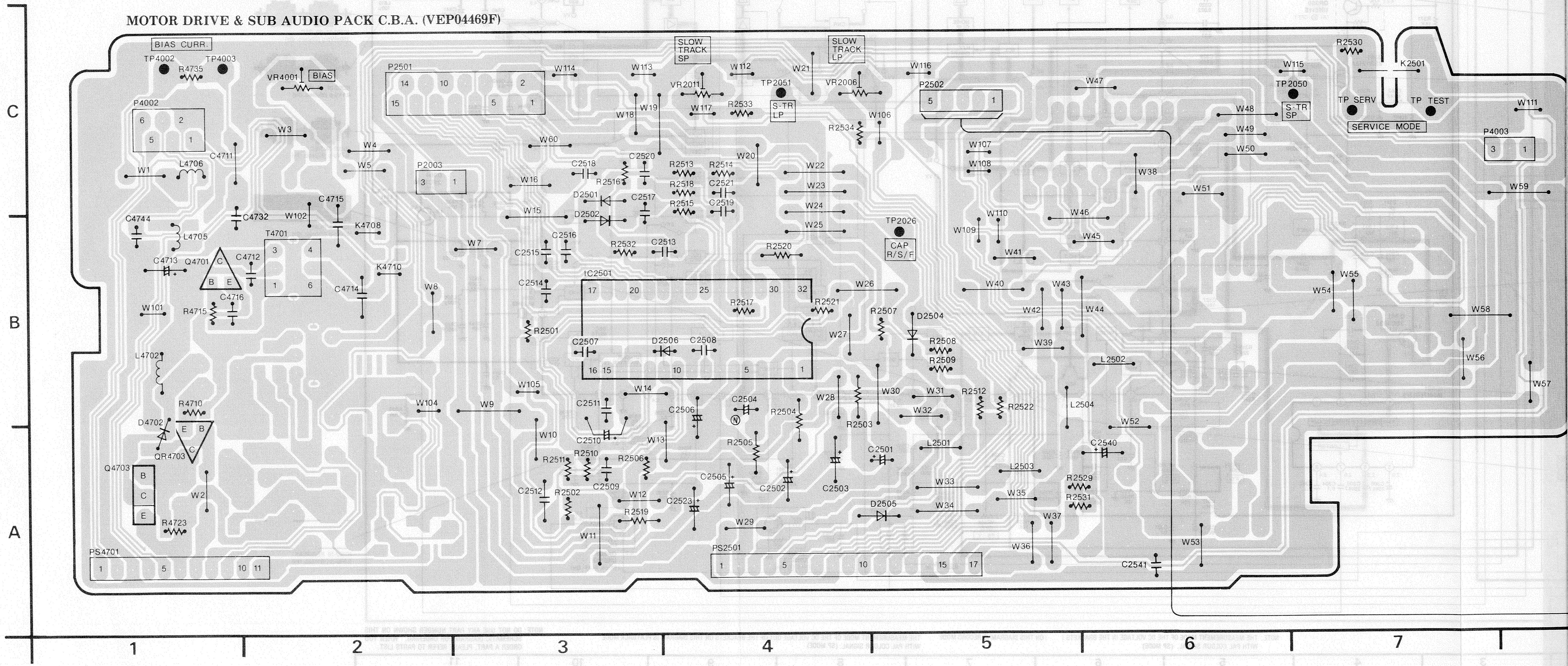
REF. NO.	PS4701																			
MODE	1	2	3	4	5	6	7	8	9	10	11									
STOP	0	0	0	0	0	12.3	0	0	0	4.9	0									
PLAY	0	0	0	0	0	12.3	0	0	0	0	4.9									
REC	3.5	3.5	0	0	0	12.3	4.9	4.7	0	4.9	0									
F.F	0	0	0	0	0	12.3	0	0	0	4.9	0									
REW	0	0	0	0	0	12.3	0	0	0	4.9	0									

MOTOR DRIVE & SUB AUDIO PACK TRANSISTORs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q4701			Q4703														
MODE	E	C	B	E	C	B												
STOP	0	0.2	0.2	12.3	0.3	12.3												
PLAY	0	0.3	0.3	12.3	0.3	12.3												
REC	0	11.3	−1.4	12.3	11.9	11.9												
F.F	0	0.3	0.3	12.3	0.3	12.3												
REW	0	0.3	0.3	12.3	0.3	12.3												

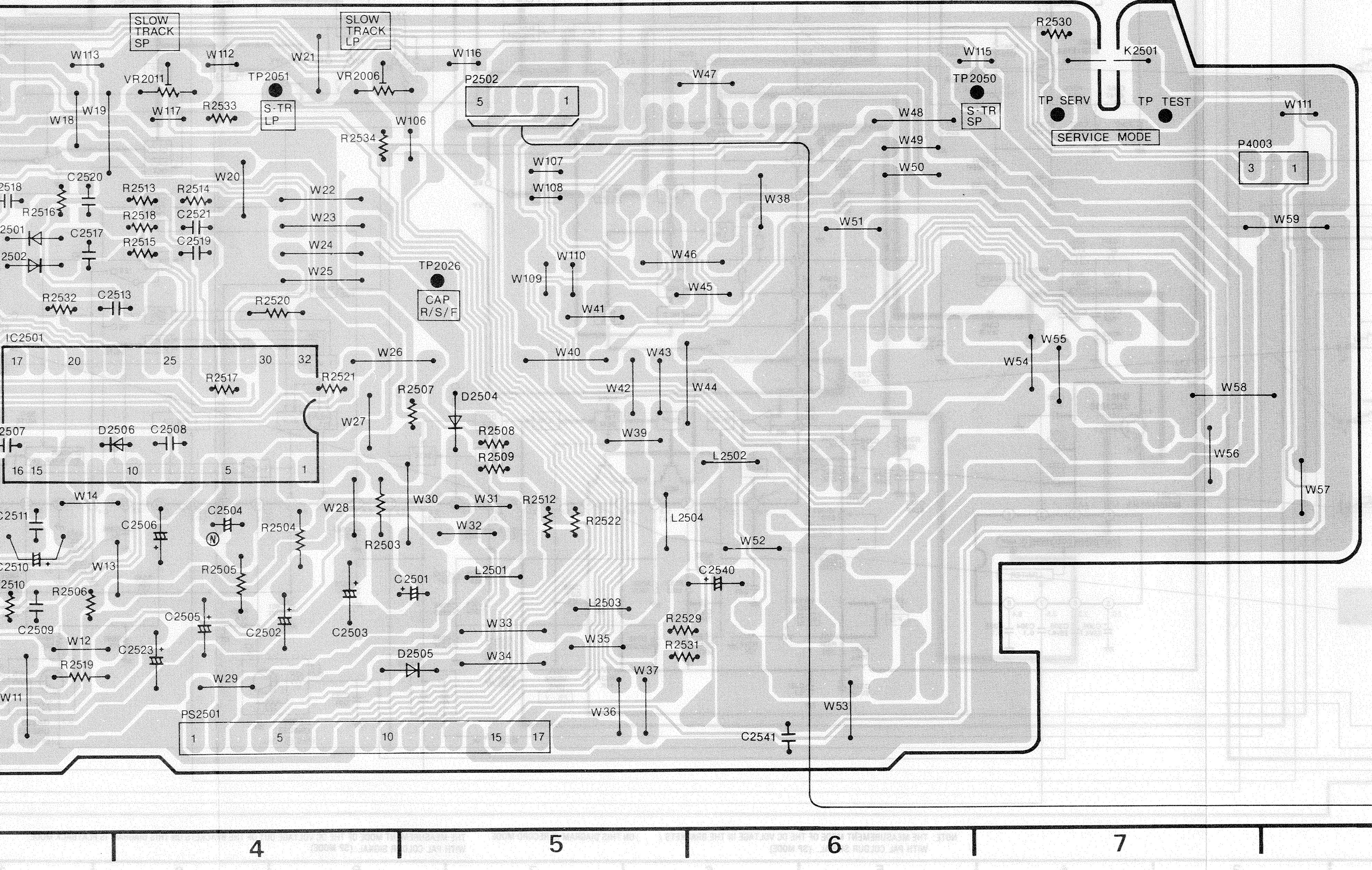
REF. NO.	QR4703																	
MODE	E	C	B															
STOP	0	12.3	0															
PLAY	0	12.3	0															
REC	4.1	11.5	4.9															
F.F	0	12.3	0															
REW	0	12.3	0															

4-7. MOTOR DRIVE & SUB AUDIO PACK C.B.A. (VEP04469F)

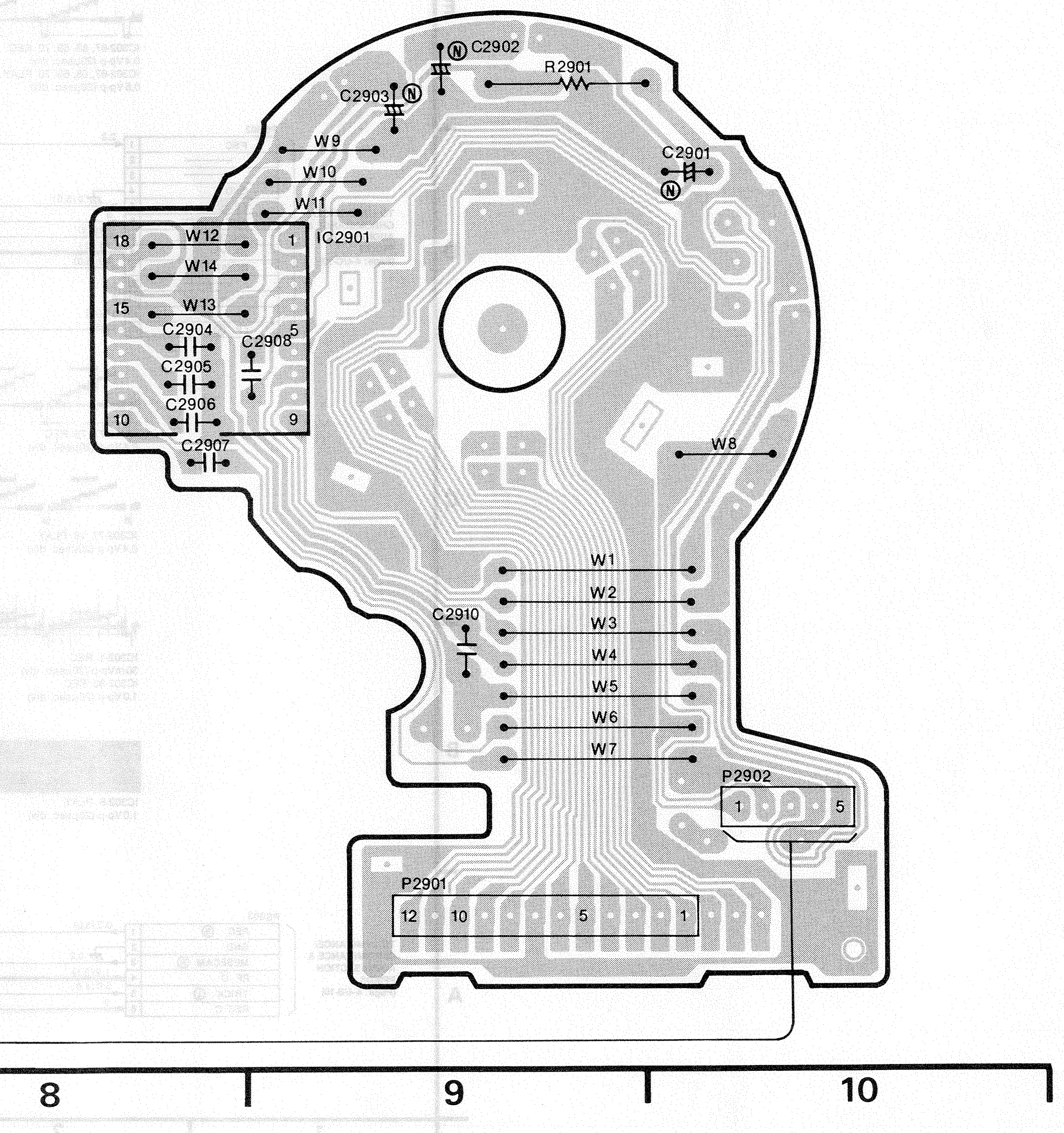

MOTOR DRIVE & SUB AUDIO PACK C.B.A. (VEP04469F)
C
B
A
1
2
3
4
5
6
7
BIAS CURR.
TP4002
TP4003
R4735
VR4001
BIAS
P4002
6
2
5
1
W3
W1
L4706
C4711
W4
W5
C4744
C4732
W102
C4715
K4708
L4705
T4701
3
4
1
6
C4713
Q4701
C
B
E
C4712
C4716
K4710
C4714
W101
R4715
L4702
R4710
D4702
E
B
C
QR4703
Q4703
B
C
E
W2
R4723
PS4701
1
5
10
11
P2501
14
10
2
15
5
1
P2003
3
1
W114
W113
W112
W21
SLOW TRACK SP
SLOW TRACK LP
VR2011
VR2006
TP2051
S-TR LP
W117
R2533
W18
W19
W60
W16
W15
W7
W8
C2518
R2516
C2520
R2513
R2514
R2518
C2521
R2515
C2519
D2501
D2502
C2517
W20
W22
W23
W24
W25
C2516
C2515
R2532
C2513
C2514
IC2501
17
20
25
30
32
16
15
10
5
1
R2517
R2521
R2501
C2507
D2506
C2508
W105
W104
W9
W14
C2511
C2510
W10
R2510
R2511
R2506
C2512
R2502
C2509
W13
W12
R2519
W11
C2506
C2504
R2504
R2505
C2505
C2502
C2523
W29
PS2501
1
5
10
15
17
W106
R2534
TP2026
CAP R/S/F
R2520
W26
R2507
D2504
W27
R2508
R2509
W28
R2503
W30
W31
W32
R2512
R2522
C2501
C2503
L2501
W33
W34
D2505
W116
P2502
5
1
W107
W108
W109
W110
W47
W38
W46
W45
W41
W40
W43
W42
W44
W39
L2502
L2504
W52
C2540
L2503
R2529
R2531
W35
W37
W36
C2541
W53
W51
W48
W49
W50
W115
TP2050
S-TR SP
R2530
K2501
TP SERV
TP TEST
SERVICE MODE
W111
P4003
3
1
W59
W55
W54
W58
W56
W57

MOTOR DRIVE & SUB AUDIO PACK C.B.A.			
Transistor		**Adjustment**	
Q4701	B-1	VR2006	C-4
Q4703	A-1	VR2011	C-4
Transistor & Resistor		VR4001	C-2
QR4703	A-1	**Connector**	
Integrated Circuit		P2003	C-2
IC2501	B-3	P2501	C-2
IC2902	B-8	P2502	C-5
Test Point		P2901	A-9
TP2026	B-5	P2902	A-10
TP2050	C-7	P4002	C-1
TP2051	C-4	P4003	C-7
TP4002	C-1	PS2501	A-4
TP4003	C-1	PS4701	A-1
TP SERV	C-7		
TP TEST	C-7		

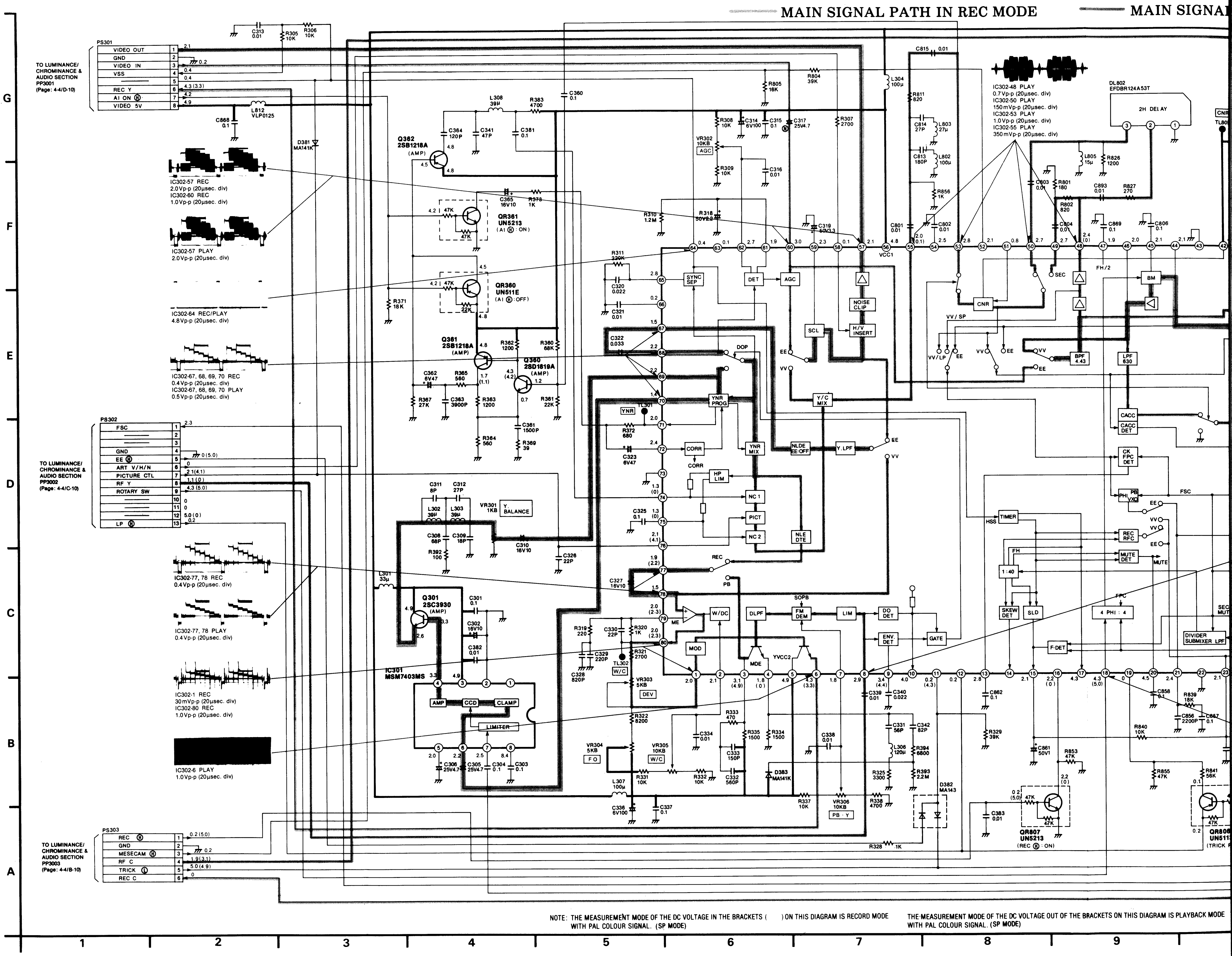
ADDRESS INFORMATION


SLOW TRACK SP
SLOW TRACK LP
W113
W112
W21
W116
VR2011
TP2051
VR2006
P2502
5
1
W47
W115
TP2050
R2530
K2501
TP SERV
TP TEST
SERVICE MODE
S-TR LP
S-TR SP
W111
P4003
3
1
W18
W19
W117
R2533
R2534
W106
W48
W49
W50
W107
W108
W38
C2520
R2513
R2514
W20
W22
W23
W24
W25
R2516
R2518
C2521
R2515
C2519
C2517
W51
W59
TP2026
CAP R/S/F
W110
W109
W46
W45
W41
R2532
C2513
R2520
IC2501
17
20
25
30
32
R2517
R2521
W26
W40
W43
W55
W54
W58
R2507
D2504
W42
W44
W27
D2506
C2508
R2508
R2509
W39
W56
16
15
10
5
1
L2502
W57
W14
W28
W30
W31
R2512
R2522
C2511
C2506
C2504
R2504
R2503
W32
L2504
W52
W13
R2505
C2501
L2501
C2540
C2510
R2506
L2503
C2509
C2505
C2502
C2503
W33
R2529
R2531
W12
R2519
C2523
D2505
W34
W35
W37
W29
W36
W53
W11
PS2501
1
5
10
15
17
C2541
4
5
6
7

CYLINDER DRIVE C.B.A. (VEX0129)


C2902
R2901
C2903
W9
W10
W11
C2901
18
W12
1
IC2901
W14
15
W13
C2904
C2908
5
C2905
10
C2906
9
C2907
W8
W1
W2
C2910
W3
W4
W5
W6
W7
P2902
1
5
P2901
12
10
5
1
8
9
10

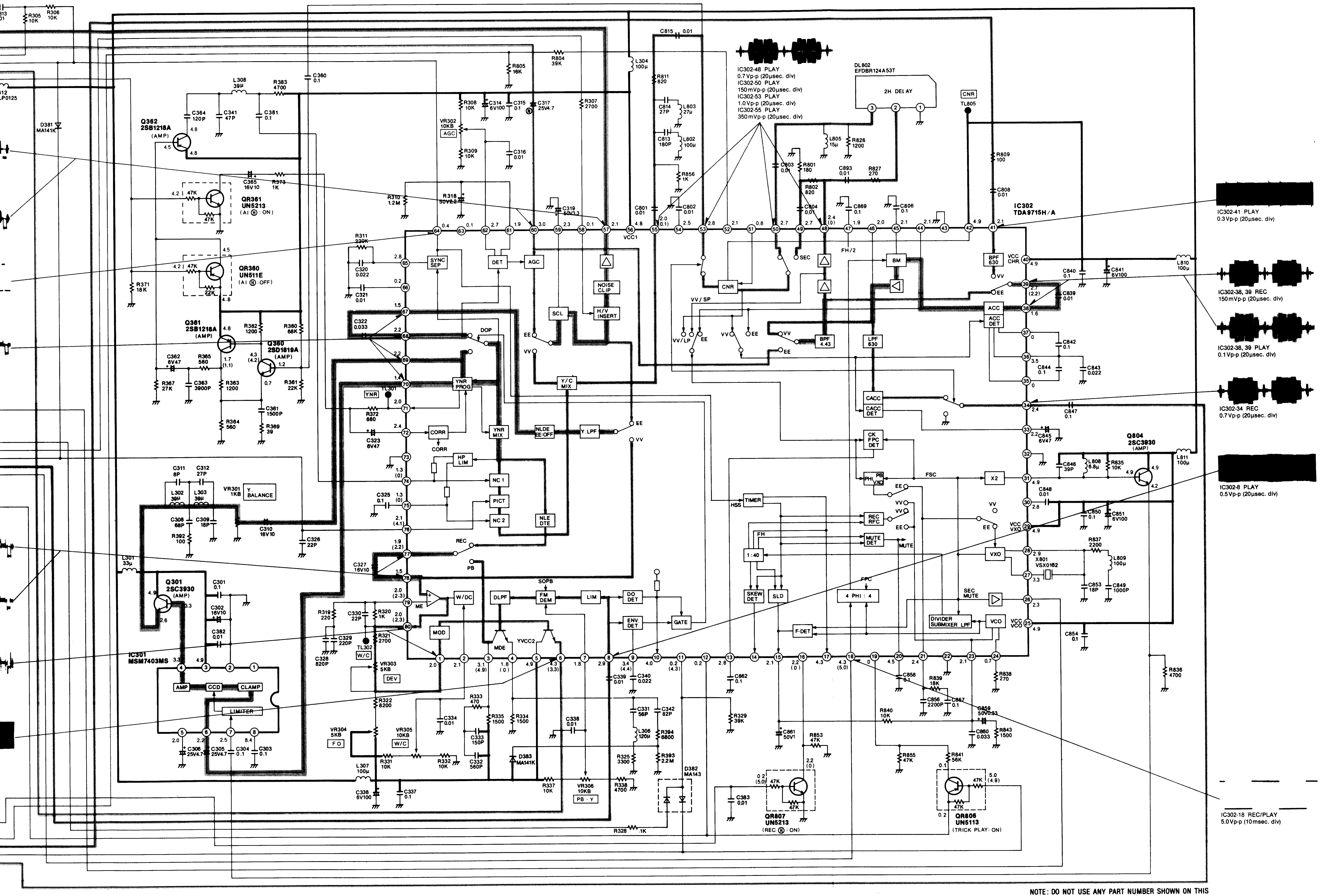
4-8. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNA
PS301
VIDEO OUT
GND
VIDEO IN
VSS
REC Y
AI ON Ⓗ
VIDEO 5V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3001 (Page: 4-4/D-10)
PS302
FSC
GND
EE Ⓗ
ART V/H/N
PICTURE CTL
RF Y
ROTARY SW
LP Ⓗ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3002 (Page: 4-4/C-10)
PS303
REC Ⓗ
GND
MESECAM Ⓗ
RF C
TRICK Ⓛ
REC C
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3003 (Page: 4-4/B-10)
IC302-57 REC 2.0Vp-p (20µsec. div) IC302-60 REC 1.0Vp-p (20µsec. div)
IC302-57 PLAY 2.0Vp-p (20µsec. div)
IC302-64 REC/PLAY 4.8Vp-p (20µsec. div)
IC302-67, 68, 69, 70 REC 0.4Vp-p (20µsec. div) IC302-67, 68, 69, 70 PLAY 0.5Vp-p (20µsec. div)
IC302-77, 78 REC 0.4Vp-p (20µsec. div)
IC302-77, 78 PLAY 0.4Vp-p (20µsec. div)
IC302-1 REC 30mVp-p (20µsec. div) IC302-80 REC 1.0Vp-p (20µsec. div)
IC302-6 PLAY 1.0Vp-p (20µsec. div)
IC302-48 PLAY 0.7Vp-p (20µsec. div) IC302-50 PLAY 150mVp-p (20µsec. div) IC302-53 PLAY 1.0Vp-p (20µsec. div) IC302-55 PLAY 350mVp-p (20µsec. div)
Q362 2SB1218A (AMP)
QR361 UN5213 (AI Ⓗ: ON)
QR360 UN511E (AI Ⓗ: OFF)
Q361 2SB1218A (AMP)
Q360 2SD1819A (AMP)
Q301 2SC3930 (AMP)
IC301 MSM7403MS
AMP
CCD
CLAMP
LIMITER
VR301 1KB
Y. BALANCE
VR302 10KB
AGC
VR303 5KB
DEV
VR304 5KB
FO
VR305 10KB
W/C
VR306 10KB
PB · Y
SYNC SEP
DET
AGC
NOISE CLIP
SCL
H/V INSERT
DOP
YNR PROG
YNR
YNR MIX
CORR
HP LIM
NC 1
PICT
NC 2
NLE DTE
NLDE EE·OFF
Y. LPF
Y/C MIX
W/DC
DLPF
FM DEM
LIM
DO DET
ENV. DET
GATE
MOD
MDE
YVCC2
SOPB
ME
REC
PB
EE
VV
VV/SP
VV/LP
SEC
CNR
BPF 4.43
LPF 630
BM
FH/2
CACC
CACC DET
CK FPC DET
TIMER
HSS
REC RFC
MUTE DET
MUTE
FH
1:40
SKEW DET
SLD
F-DET
4 PHI : 4
FPC
FSC
DIVIDER SUBMIXER LPF
DL802 EFDBR124A53T
2H DELAY
VCC1
D381 MA141K
D382 MA143
D383 MA141K
QR807 UN5213 (REC Ⓗ: ON)
QR806 UN511
TL301
TL302
L812 VLP0125
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

MINANCE PACK SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE — MAIN SIGNAL PATH IN PLAYBACK MODE



IC302 TDA9715H/A
IC301 MSM7403MS
Q362 2SB1218A (AMP)
QR361 UN5213 (AI Ⓗ : ON)
QR360 UN511E (AI Ⓗ : OFF)
Q361 2SB1218A (AMP)
Q360 2SD1819A (AMP)
Q301 2SC3930 (AMP)
Q804 2SC3930 (AMP)
QR807 UN5213 (REC Ⓗ : ON)
QR806 UN5113 (TRICK PLAY: ON)
D381 MA141K
D383 MA141K
D382 MA143
DL802 EFDBR124A53T
2H DELAY
CNR
TL805
TL301
TL302
YNR
W/C
DEV
F O
PB · Y
AGC
Y BALANCE
X801 VSX0162
SYNC SEP
DET
AGC
NOISE CLIP
H/V INSERT
SCL
Y/C MIX
DOP
YNR PROG
YNR MIX
NLDE EE:OFF
Y LPF
CORR
HP LIM
NC 1
PICT
NC 2
NLE DTE
W/DC
DLPF
FM DEM
LIM
DO DET
ENV. DET
GATE
MDE
YVCC2
SOPB
ME
REC
PB
EE
VV
VV/SP
VV/LP
SEC
FH/2
BM
BPF 4.43
LPF 630
BPF 630
VCC CHR
ACC
ACC DET
CACC
CACC DET
CK FPC DET
PHI PB VXO
FSC
X2
HSS
TIMER
REC RFC
MUTE DET
MUTE
FH
1:40
SKEW DET
SLD
FPC
4 PHI : 4
F-DET
SEC MUTE
DIVIDER SUBMIXER LPF
VCO
VXO
VCC VXO
VCC VCO
VCC1
AMP
CCD
CLAMP
LIMITER
IC302-48 PLAY 0.7Vp-p (20μsec. div)
IC302-50 PLAY 150mVp-p (20μsec. div)
IC302-53 PLAY 1.0Vp-p (20μsec. div)
IC302-55 PLAY 350mVp-p (20μsec. div)
IC302-41 PLAY 0.3Vp-p (20μsec. div)
IC302-38, 39 REC 150mVp-p (20μsec. div)
IC302-38, 39 PLAY 0.1Vp-p (20μsec. div)
IC302-34 REC 0.7Vp-p (20μsec. div)
IC302-8 PLAY 0.5Vp-p (20μsec. div)
IC302-18 REC/PLAY 5.0Vp-p (10msec. div)

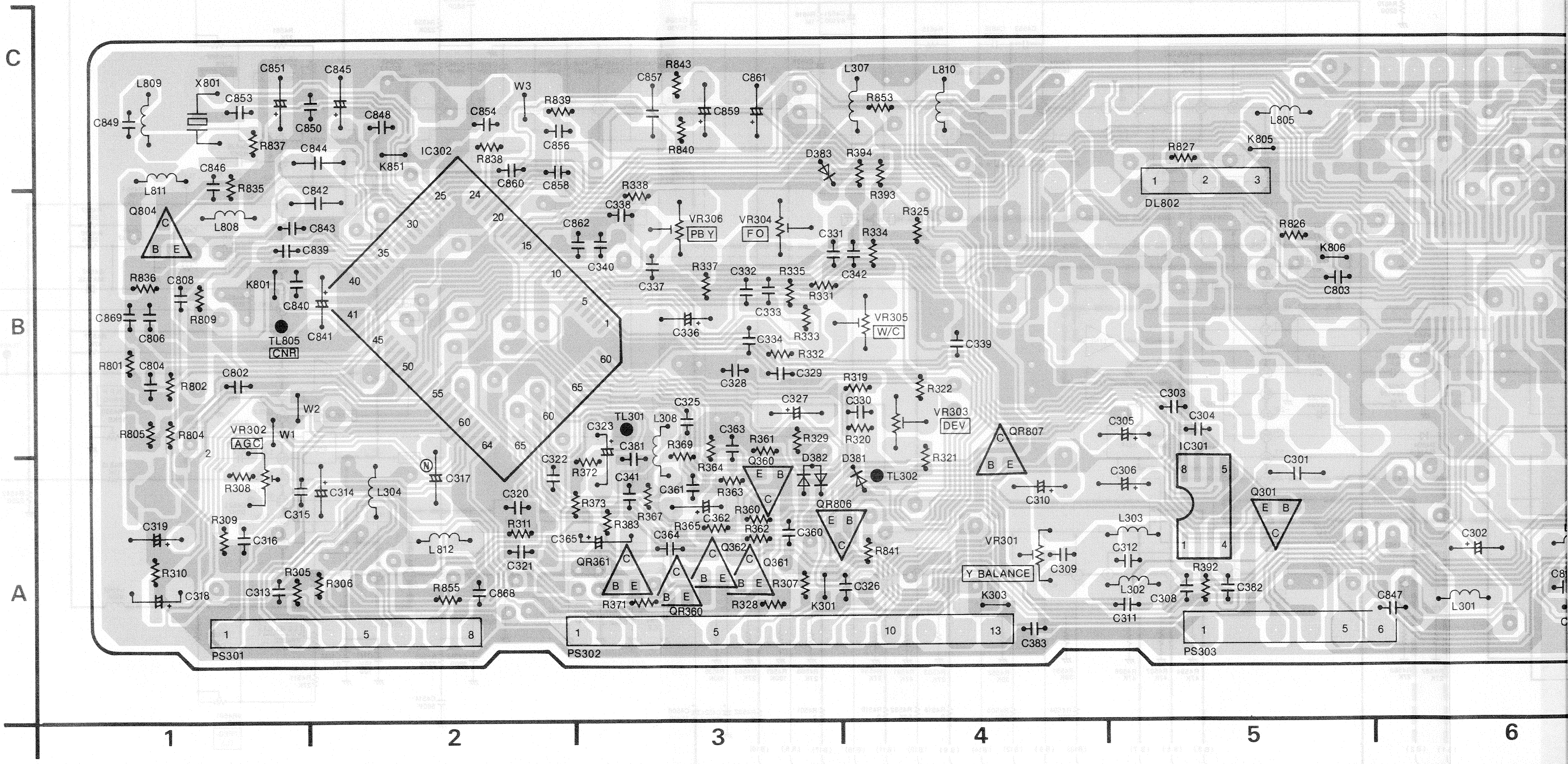
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

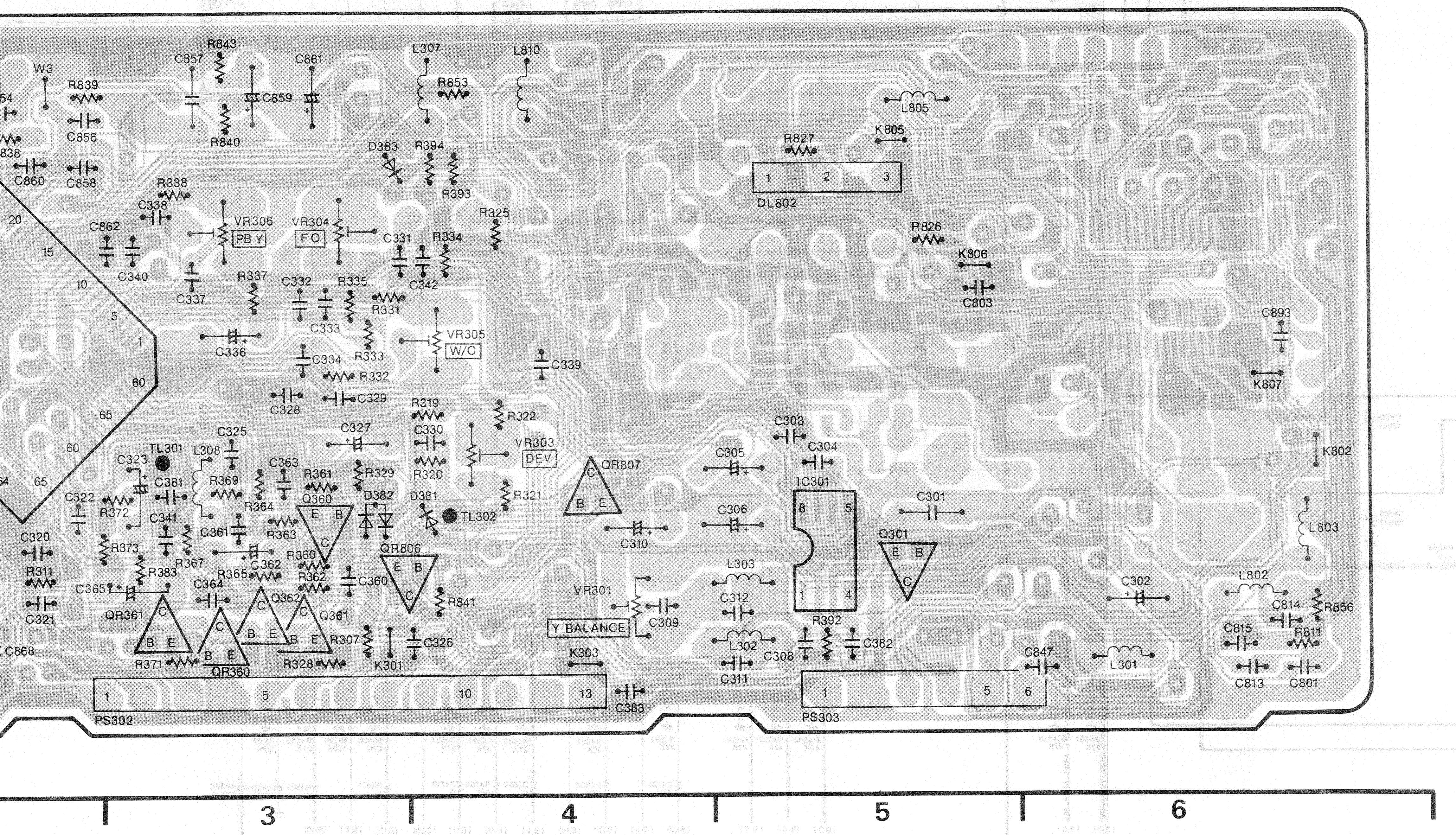
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3 4 5 6 7 8 9 10 11

4-9. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03B46C)


C
B
A
1
2
3
4
5
6
L809
X801
C849
C853
C851
C845
C850
C848
R837
C844
K851
C846
R835
L811
C842
Q804
L808
C843
C839
IC302
C854
R838
C860
W3
R839
C856
C858
C857
R843
R840
C859
C861
L307
R853
L810
D383
R394
R393
R838
C338
VR306
PB Y
VR304
F O
C862
C340
C337
R337
C332
R335
R331
C331
R334
C342
R325
C333
C336
C334
R333
R332
VR305
W/C
C339
C328
C329
R319
C330
R320
R322
VR303
DEV
R321
C327
C325
L308
TL301
C323
C381
R369
C363
R361
Q360
R329
D382
D381
TL302
QR807
C322
R372
C341
R364
R363
C361
C320
R311
C321
R373
R367
C362
R360
R383
R365
R362
C360
QR806
R841
C365
C364
Q362
Q361
QR361
QR360
R371
R328
R307
K301
C326
R336
C808
R809
K801
C840
C841
TL805
CNR
C869
C806
R801
C804
R802
C802
W2
R805
R804
VR302
AGC
W1
R308
C315
C314
L304
C317
R309
C316
C319
R310
C318
C313
R305
R306
L812
R855
C868
PS301
PS302
PS303
K303
C383
Y BALANCE
VR301
C309
L303
C312
L302
C308
C311
R392
C382
IC301
C303
C304
C305
C306
C310
Q301
C301
C302
C847
L301
R827
K805
L805
DL802
R826
K806
C803
1
5
8
10
13
2
3
6
4
15
20
24
25
30
35
40
41
45
50
55
60
64
65

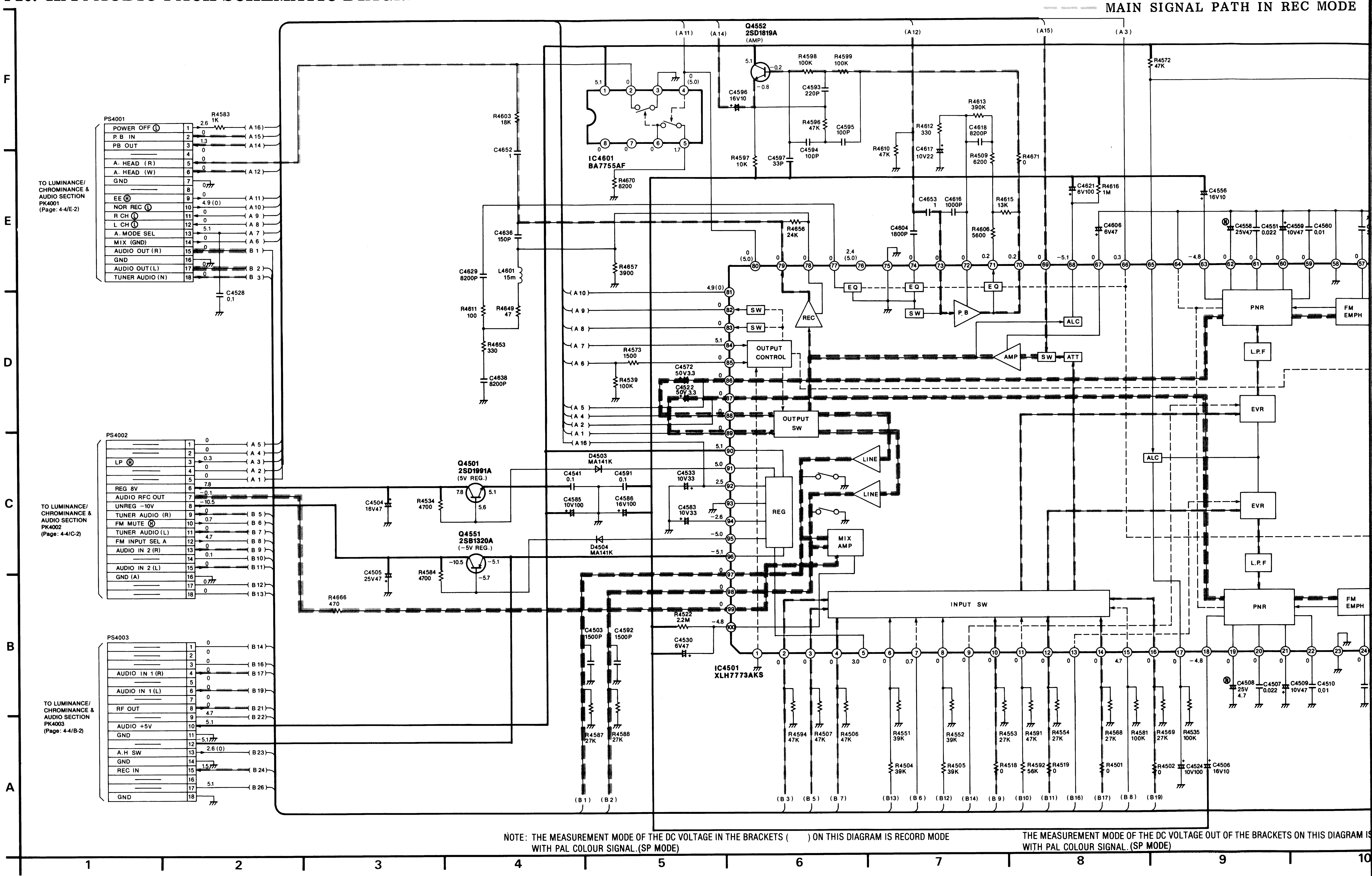
.B.A. (VEP03B46C)


W3
R843
C857
C861
L307
L810
R839
C859
R853
C856
R840
L805
C860
C858
D383
R394
R827
K805
R338
C338
R393
DL802
1
2
3
C862
VR306
PB Y
VR304
F O
R325
R826
C331
R334
K806
C340
C337
R337
C332
R335
C342
C803
R331
C333
VR305
W/C
C893
C336
C334
R333
R332
C339
K807
C328
C329
R319
C330
R322
C325
C327
TL301
L308
VR303
DEV
C303
K802
C323
C363
R320
QR807
C304
C305
C381
R369
R361
R329
IC301
R372
C322
Q360
R364
D382
D381
R321
TL302
C306
C301
L803
C341
R363
C361
C310
Q301
C320
R373
R367
QR806
L303
R311
R360
C362
R365
C365
R383
C364
R362
C360
VR301
C302
L802
R841
C312
C321
QR361
Q362
Q361
Y BALANCE
C309
R392
C814
R856
C815
R811
C326
L302
C382
C868
R307
K303
C308
C847
R371
QR360
R328
K301
C311
L301
C813
C801
PS302
1
5
10
13
C383
PS303
1
5
6
3
4
5
6

LUMINANCE & CHROMINANCE PACK C.B.A.	
Transistor	
Q301	A-5
Q360	A-3
Q361	A-3
Q362	A-3
Q804	B-1
Transistor & Resistor	
QR360	A-3
QR361	A-3
QR806	A-3
QR807	B-4
Integrated Circuit	
IC301	A-5
IC302	C-2
Test Point	
TL301	B-3
TL302	A-4
TL801	B-6
TL805	B-1
TL807	C-6
Adjustment	
VR301	A-4
VR302	A-1
VR303	B-4
VR304	B-3
VR305	B-4
VR306	B-3
Connector	
PS301	A-1
PS302	A-3
PS303	A-5

ADDRESS INFORMATION

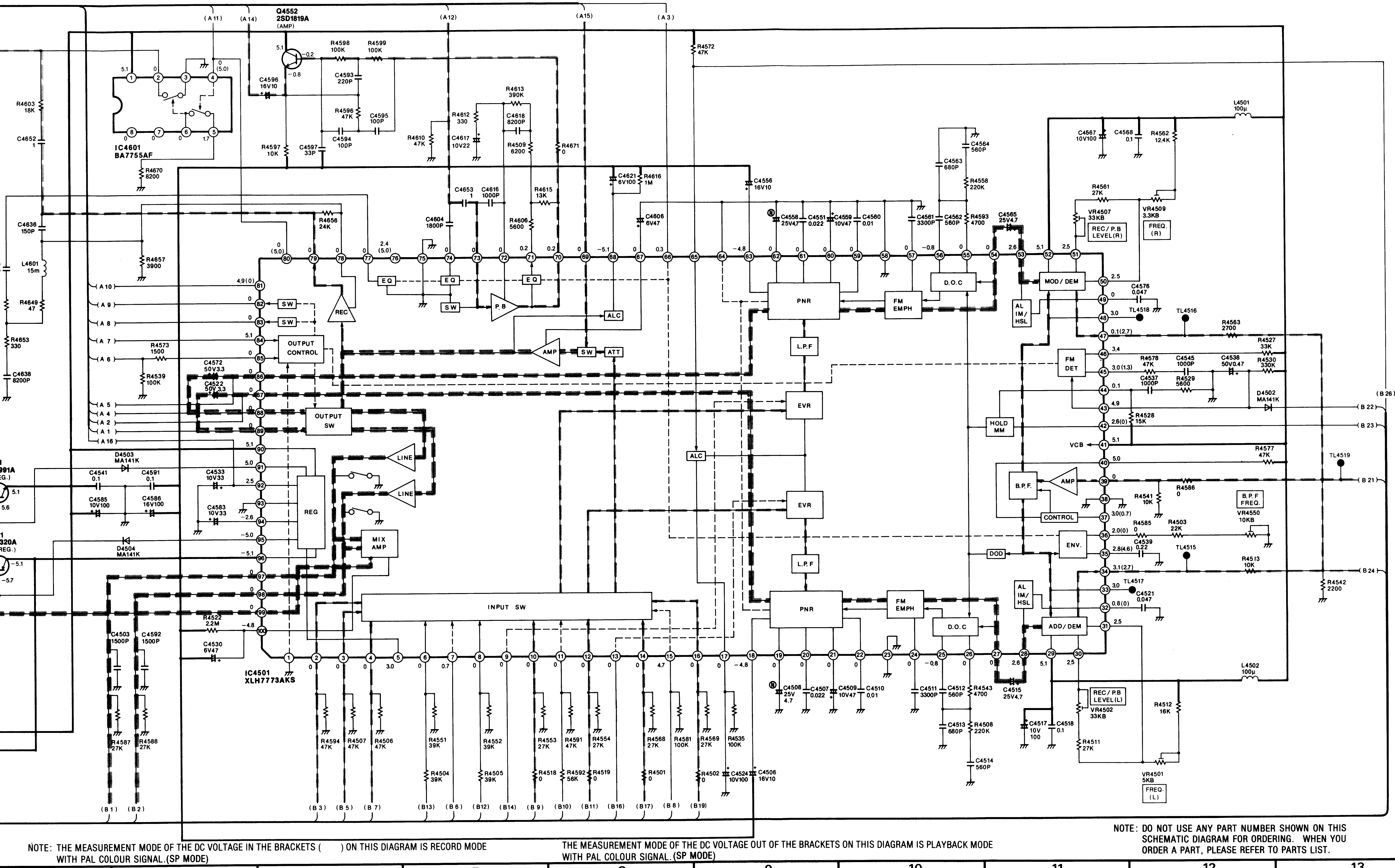
4-10. Hi-Fi AUDIO PACK SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
PS4001
POWER OFF Ⓛ
P.B IN
PB OUT
A. HEAD (R)
A. HEAD (W)
GND
EE Ⓗ
NOR REC Ⓛ
R CH Ⓛ
L CH Ⓛ
A. MODE SEL
MIX (GND)
AUDIO OUT (R)
GND
AUDIO OUT (L)
TUNER AUDIO (N)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK4001 (Page: 4-4/E-2)
PS4002
LP Ⓗ
REG 8V
AUDIO RFC OUT
UNREG -10V
TUNER AUDIO (R)
FM MUTE Ⓗ
TUNER AUDIO (L)
FM INPUT SEL A
AUDIO IN 2 (R)
AUDIO IN 2 (L)
GND (A)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK4002 (Page: 4-4/C-2)
PS4003
AUDIO IN 1 (R)
AUDIO IN 1 (L)
RF OUT
AUDIO +5V
GND
A.H SW
GND
REC IN
GND
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK4003 (Page: 4-4/B-2)
R4583 1K
C4528 0.1
R4603 18K
C4652 1
C4636 150P
C4629 8200P
L4601 15m
R4611 100
R4649 47
R4653 330
C4638 8200P
IC4601 BA7755AF
R4670 8200
Q4552 2SD1819A (AMP)
C4596 16V10
R4598 100K
R4599 100K
C4593 220P
R4596 47K
C4595 100P
C4594 100P
R4597 10K
C4597 33P
R4613 390K
C4618 8200P
R4612 330
R4610 47K
C4617 10V22
R4509 6200
R4671 0
C4653 1
C4616 1000P
R4615 13K
R4606 5600
C4604 1800P
R4656 24K
R4657 3900
C4621 6V100
R4616 1M
C4606 6V47
R4572 47K
C4556 16V10
C4558 25V47
C4551 0.022
C4559 10V47
C4560 0.01
R4573 1500
R4539 100K
C4572 50V3.3
C4522 50V3.3
D4503 MA141K
C4541 0.1
C4591 0.1
C4585 10V100
C4586 16V100
C4533 10V33
C4583 10V33
D4504 MA141K
Q4501 2SD1991A (5V REG.)
C4504 16V47
R4534 4700
Q4551 2SB1320A (-5V REG.)
C4505 25V47
R4584 4700
R4666 470
R4522 2.2M
C4530 6V47
C4503 1500P
C4592 1500P
R4587 27K
R4588 27K
IC4501 XLH7773AKS
SW
REC
OUTPUT CONTROL
OUTPUT SW
LINE
REG
MIX AMP
EQ
P.B
AMP
ALC
ATT
PNR
FM EMPH
L.P.F
EVR
INPUT SW
R4594 47K
R4507 47K
R4506 47K
R4551 39K
R4504 39K
R4552 39K
R4505 39K
R4553 27K
R4518 0
R4591 47K
R4592 56K
R4554 27K
R4519 0
R4568 27K
R4501 0
R4581 100K
R4569 27K
R4502 0
R4535 100K
C4524 10V100
C4506 16V10
C4508 25V 4.7
C4507 0.022
C4509 10V47
C4510 0.01

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS WITH PAL COLOUR SIGNAL. (SP MODE)

MAIN SIGNAL PATH IN REC MODE   MAIN SIGNAL PATH IN PLAYBACK MODE

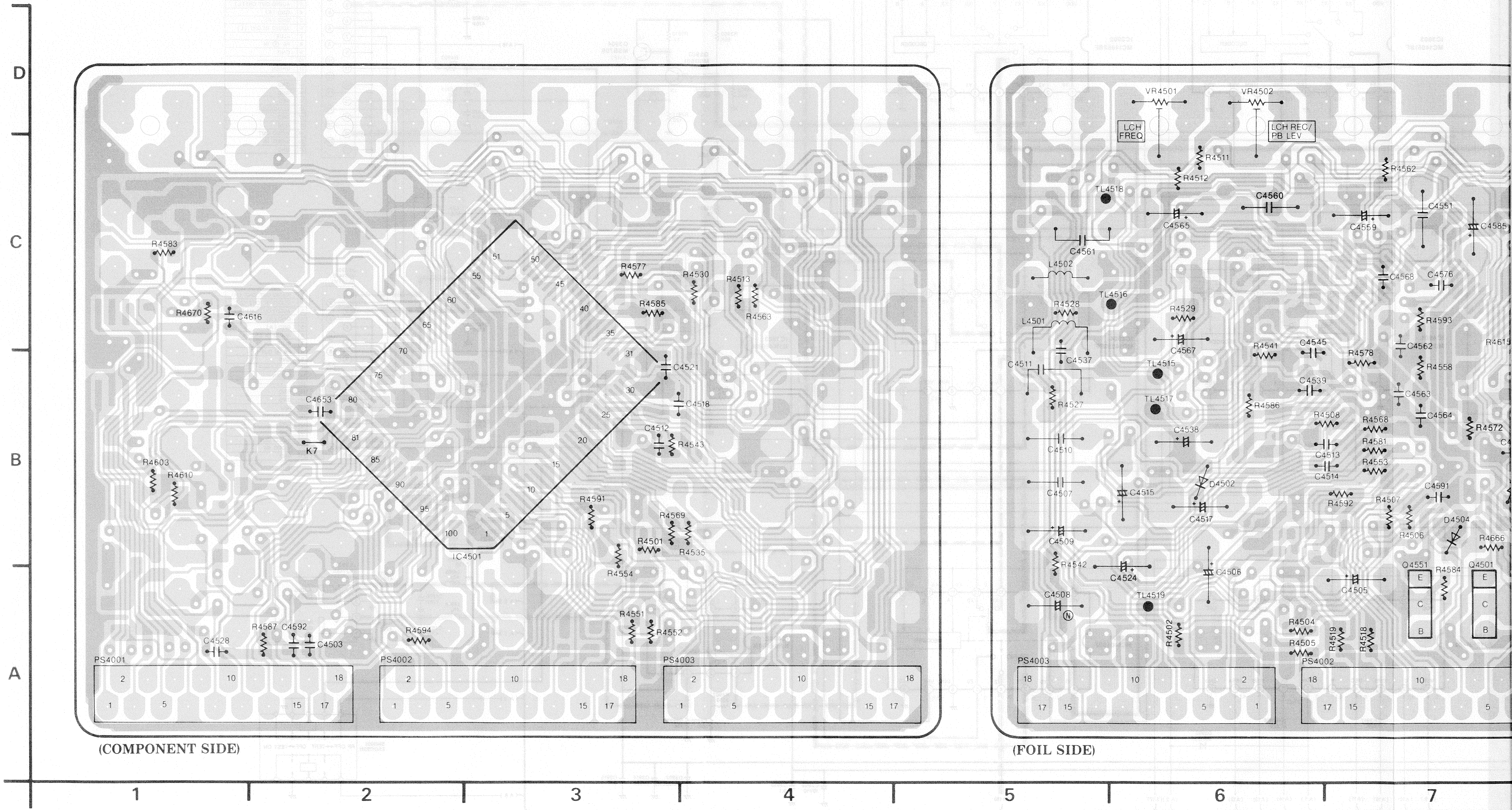

IC4601
BA7755AF
Q4552
2SD1819A
(AMP)
IC4501
XLH7773AKS
EQ
SW
P.B
REC
AMP
ATT
ALC
OUTPUT CONTROL
OUTPUT SW
LINE
REG
MIX AMP
INPUT SW
PNR
FM EMPH
D.O.C
L.P.F
EVR
MOD / DEM
AL IM/ HSL
ADD / DEM
FM DET
HOLD MM
VCB
B.P.F.
CONTROL
ENV.
DOD
REC / P.B LEVEL(R)
FREQ. (R)
REC / P.B LEVEL(L)
FREQ. (L)
B.P.F FREQ.
VR4507 33KB
VR4509 3.3KB
VR4502 33KB
VR4501 5KB
VR4550 10KB
L4501 100μ
L4502 100μ
D4502 MA141K
D4503 MA141K
D4504 MA141K
TL4515
TL4516
TL4517
TL4518
TL4519
(A 1)
(A 2)
(A 3)
(A 4)
(A 5)
(A 6)
(A 7)
(A 8)
(A 9)
(A 10)
(A 11)
(A 12)
(A 14)
(A 15)
(A 16)
(B 1)
(B 2)
(B 3)
(B 5)
(B 6)
(B 7)
(B 8)
(B 9)
(B 10)
(B 11)
(B 12)
(B 13)
(B 14)
(B 16)
(B 17)
(B 19)
(B 21)
(B 22)
(B 23)
(B 24)
(B 26)
4
5
6
7
8
9
10
11
12
13

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

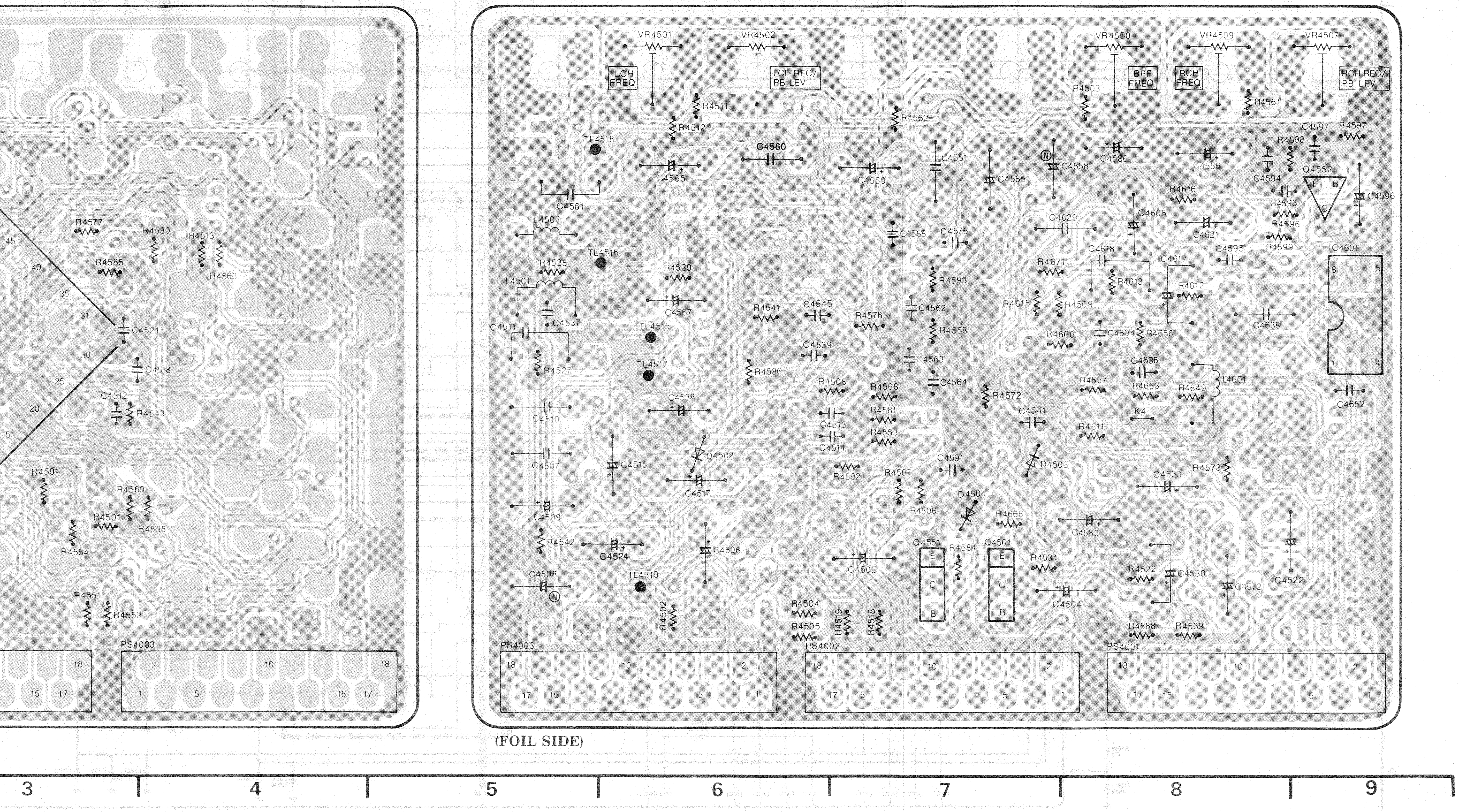
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

4-11. Hi-Fi AUDIO PACK C.B.A. (VEP04447PK)


D
C
B
A
1
2
3
4
5
6
7
R4583
R4670
C4616
C4653
K7
R4603
R4610
C4528
R4587
C4592
C4503
R4594
IC4501
1
5
10
15
20
25
30
31
35
40
45
50
51
55
60
65
70
75
80
81
85
90
95
100
R4577
R4530
R4513
R4585
R4563
C4521
C4518
C4512
R4543
R4591
R4569
R4501
R4535
R4554
R4551
R4552
PS4001
PS4002
PS4003
VR4501
VR4502
LCH FREQ
LCH REC/ PB LEV
R4511
R4512
R4562
TL4518
C4560
C4565
C4559
C4551
C4585
C4561
L4502
TL4516
C4568
C4576
R4528
L4501
R4529
R4593
C4537
C4567
R4541
C4545
R4578
C4562
C4511
TL4515
C4539
R4558
R4527
TL4517
R4586
C4563
R4508
R4568
C4564
R4572
C4538
C4513
R4581
C4510
R4553
C4514
D4502
C4515
C4507
R4592
R4507
C4591
C4517
R4506
D4504
R4666
C4509
R4542
C4524
C4506
Q4551
R4584
Q4501
E
C
B
C4505
C4508
TL4519
R4502
R4504
R4505
R4519
R4518

(COMPONENT SIDE)

(FOIL SIDE)


VR4501
VR4502
LCH FREQ.
LCH REC/ PB LEV
VR4550
BPF FREQ.
VR4509
RCH FREQ.
VR4507
RCH REC/ PB LEV
R4503
R4511
R4512
R4562
R4561
TL4518
C4560
C4565
C4559
C4551
C4585
C4558
C4586
C4556
C4597
R4597
R4598
C4594
Q4552
E
B
C
C4596
C4561
L4502
C4568
C4576
C4629
C4606
R4616
C4593
R4596
C4621
R4599
C4595
IC4601
R4577
R4530
R4513
R4563
R4585
TL4516
R4528
L4501
R4529
C4567
C4537
C4511
C4521
C4518
TL4515
R4541
C4545
R4578
C4562
R4593
R4558
C4618
R4613
C4617
R4612
R4671
R4615
R4509
R4606
C4604
R4656
C4638
R4527
TL4517
C4539
R4586
C4563
C4564
C4636
R4657
R4653
R4649
L4601
C4652
C4512
R4543
C4538
C4510
R4508
R4568
R4581
R4553
C4513
C4514
R4572
C4541
K4
R4611
C4507
C4515
D4502
C4517
R4592
R4507
C4591
D4503
C4533
R4573
R4591
R4569
R4501
R4535
R4554
C4509
R4542
C4524
C4506
R4506
D4504
R4666
C4583
C4522
C4508
TL4519
C4505
Q4551
R4584
Q4501
R4534
R4522
C4530
C4572
C4504
R4551
R4552
R4502
R4504
R4505
R4519
R4518
R4588
R4539
PS4003
PS4003
PS4002
PS4001
1
2
5
10
15
17
18
20
25
30
31
35
40
45
3
4
5
6
7
8
9

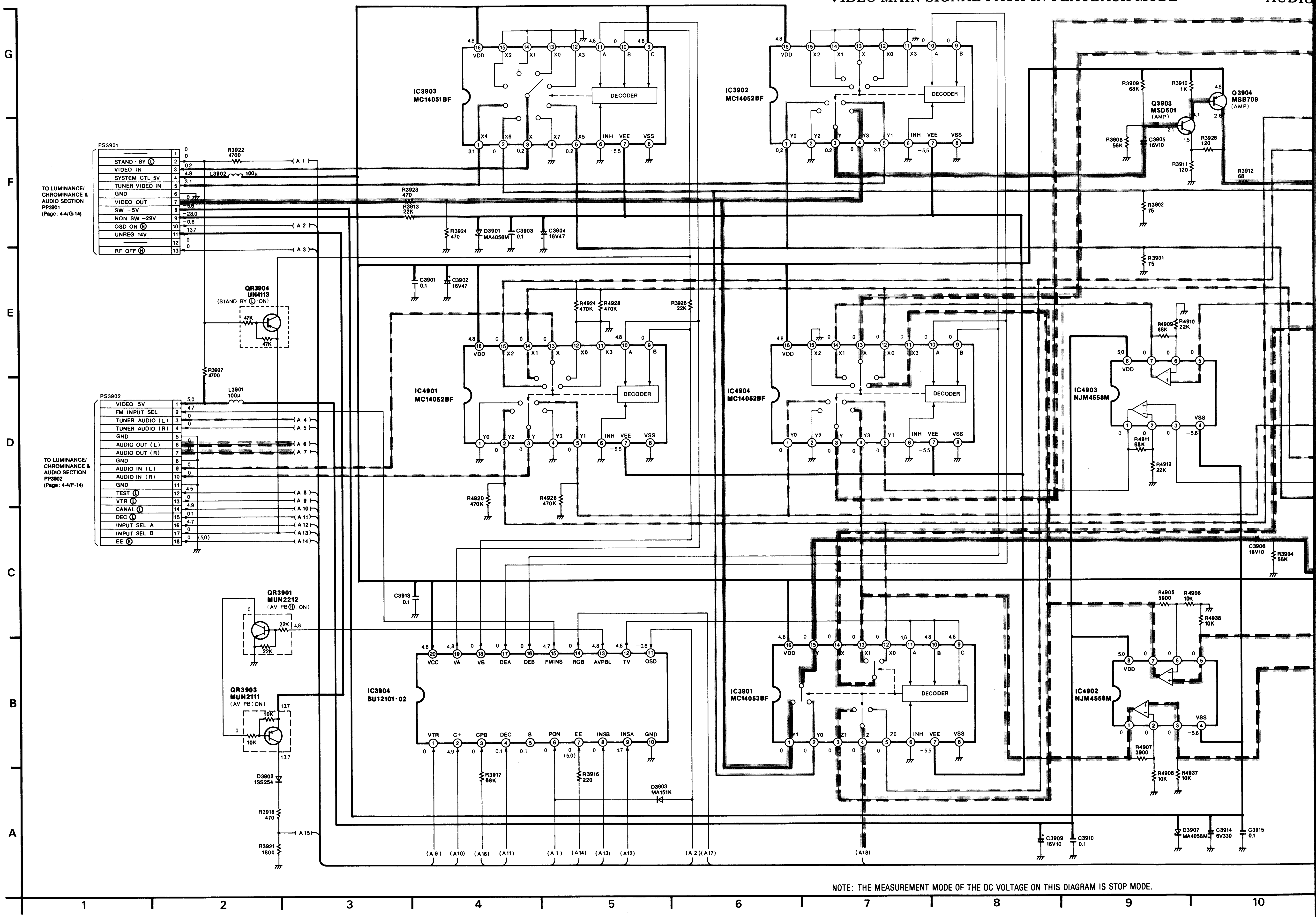
(FOIL SIDE)

Hi-Fi AUDIO PACK C.B.A.	
Transistor	
Q4501	A-7
Q4551	A-7
Q4552	C-9
Integrated Circuit	
IC4501	B-3
IC4601	C-9
Adjustment	
VR4501	D-6
VR4502	D-6
VR4507	D-9
VR4509	D-8
VR4550	D-8
Test Point	
TL4515	B-6
TL4516	C-5
TL4517	B-6
TL4518	C-5
TL4519	A-6
Connector	
PS4001	A-1
PS4001	A-8
PS4002	A-2
PS4002	A-7
PS4003	A-4
PS4003	A-5

ADDRESS INFORMATION

4-12. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM

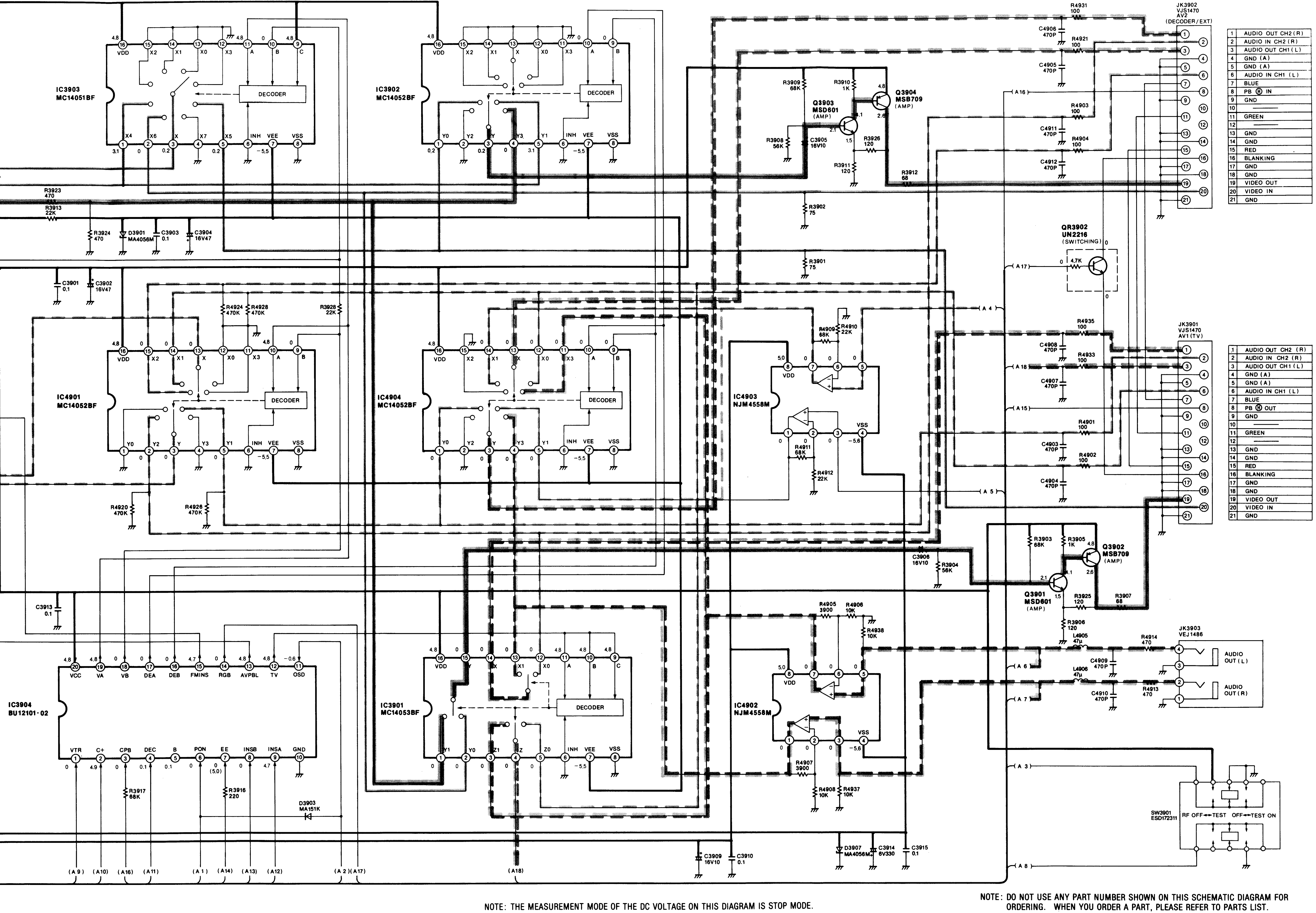
VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO
AUDIO


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
PS3901
STAND · BY Ⓛ
VIDEO IN
SYSTEM CTL 5V
TUNER VIDEO IN
GND
VIDEO OUT
SW -5V
NON SW -29V
OSD ON Ⓗ
UNREG 14V
RF OFF Ⓗ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3901 (Page: 4-4/G-14)
R3922 4700
L3902 100μ
R3923 470
R3913 22K
R3924 470
D3901 MA4056M
C3903 0.1
C3904 16V47
C3901 0.1
C3902 16V47
QR3904 UN4113 (STAND BY Ⓛ:ON)
47K
47K
R3927 4700
PS3902
VIDEO 5V
FM INPUT SEL
TUNER AUDIO (L)
TUNER AUDIO (R)
GND
AUDIO OUT (L)
AUDIO OUT (R)
GND
AUDIO IN (L)
AUDIO IN (R)
GND
TEST Ⓛ
VTR Ⓛ
CANAL Ⓛ
DEC Ⓛ
INPUT SEL A
INPUT SEL B
EE Ⓗ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3902 (Page: 4-4/F-14)
L3901 100μ
QR3901 MUN2212 (AV PB Ⓗ:ON)
22K
22K
QR3903 MUN2111 (AV PB:ON)
10K
10K
D3902 1SS254
R3918 470
R3921 1800
IC3903 MC14051BF
IC3902 MC14052BF
IC4901 MC14052BF
IC4904 MC14052BF
IC3901 MC14053BF
DECODER
VDD
VEE
VSS
INH
R4924 470K
R4928 470K
R3928 22K
R4920 470K
R4926 470K
C3913 0.1
IC3904 BU12101-02
VCC
VA
VB
DEA
DEB
FMINS
RGB
AVPBL
TV
OSD
VTR
C+
CPB
DEC
B
PON
EE
INSB
INSA
GND
R3917 68K
R3916 220
D3903 MA151K
Q3903 MSD601 (AMP)
Q3904 MSB709 (AMP)
R3909 68K
R3910 1K
R3908 56K
C3905 16V10
R3926 120
R3911 120
R3912 68
R3902 75
R3901 75
IC4903 NJM4558M
R4909 68K
R4910 22K
R4911 68K
R4912 22K
C3906 16V10
R3904 56K
IC4902 NJM4558M
R4905 3900
R4906 10K
R4936 10K
R4907 3900
R4908 10K
R4937 10K
C3909 16V10
C3910 0.1
D3907 MA4056M
C3914 6V330
C3915 0.1
(A 1)
(A 2)
(A 3)
(A 4)
(A 5)
(A 6)
(A 7)
(A 8)
(A 9)
(A 10)
(A 11)
(A 12)
(A 13)
(A 14)
(A 15)
(A 16)
(A 17)
(A 18)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

TIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


IC3903
MC14051BF
IC3902
MC14052BF
IC4901
MC14052BF
IC4904
MC14052BF
IC3901
MC14053BF
IC3904
BU12101-02
IC4903
NJM4558M
IC4902
NJM4558M
DECODER
Q3903
MSD601
(AMP)
Q3904
MSB709
(AMP)
Q3901
MSD601
(AMP)
Q3902
MSB709
(AMP)
QR3902
UN2216
(SWITCHING)
JK3902
VJS1470
AV2
(DECODER/EXT)
JK3901
VJS1470
AV1 (TV)
JK3903
VEJ1486
AUDIO OUT (L)
AUDIO OUT (R)
SW3901
ESD172311
RF OFF↔TEST OFF↔TEST ON
D3901 MA4056M
D3903 MA151K
D3907 MA4056M
VCC VA VB DEA DEB FMINS RGB AVPBL TV OSD
VTR C+ CPB DEC B PON EE INSB INSA GND
(A 9) (A10) (A16) (A11) (A 1) (A14) (A13) (A12) (A 2) (A17) (A18)
4 5 6 7 8 9 10 11 12 13

JK3902

1	AUDIO OUT CH2 (R)
2	AUDIO IN CH2 (R)
3	AUDIO OUT CH1 (L)
4	GND (A)
5	GND (A)
6	AUDIO IN CH1 (L)
7	BLUE
8	PB Ⓗ IN
9	GND
10	———
11	GREEN
12	———
13	GND
14	GND
15	RED
16	BLANKING
17	GND
18	GND
19	VIDEO OUT
20	VIDEO IN
21	GND

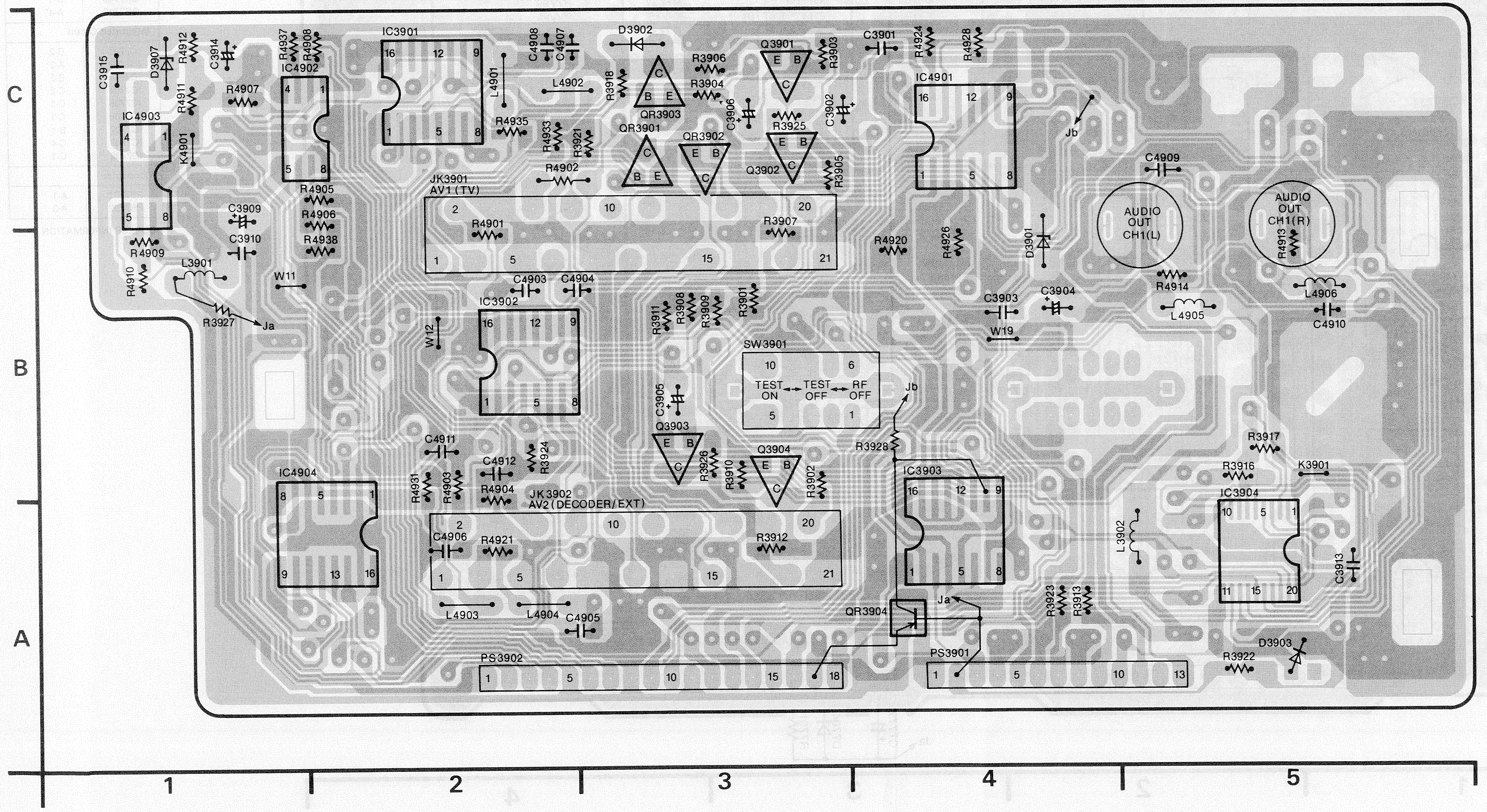
JK3901

1	AUDIO OUT CH2 (R)
2	AUDIO IN CH2 (R)
3	AUDIO OUT CH1 (L)
4	GND (A)
5	GND (A)
6	AUDIO IN CH1 (L)
7	BLUE
8	PB Ⓗ OUT
9	GND
10	———
11	GREEN
12	———
13	GND
14	GND
15	RED
16	BLANKING
17	GND
18	GND
19	VIDEO OUT
20	VIDEO IN
21	GND

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

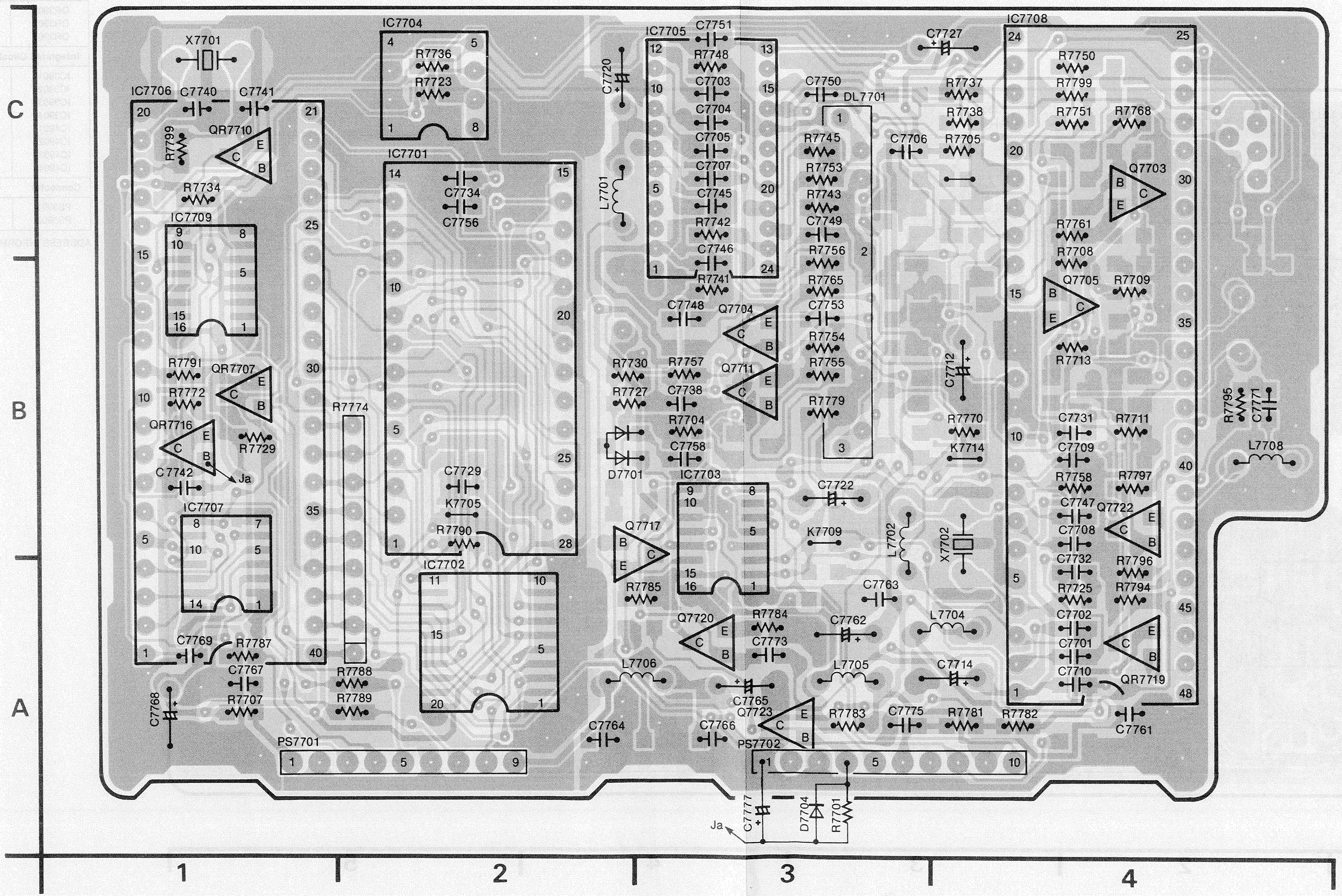
4-13. INPUT/OUTPUT PACK C.B.A. (VEP03B23B)


C
B
A
1
2
3
4
5
IC3901
IC3902
IC3903
IC3904
IC4901
IC4902
IC4903
IC4904
Q3901
Q3902
Q3903
Q3904
QR3901
QR3902
QR3903
QR3904
D3901
D3902
D3903
D3907
JK3901
AV1 (TV)
JK3902
AV2 (DECODER/EXT)
SW3901
TEST ON
TEST OFF
RF OFF
AUDIO OUT CH1(L)
AUDIO OUT CH1(R)
PS3901
PS3902
L3901
L3902
L4901
L4902
L4903
L4904
L4905
L4906
K3901
K4901
W11
W12
W19
Ja
Jb
C3901
C3902
C3903
C3904
C3905
C3906
C3909
C3910
C3913
C3914
C3915
C4903
C4904
C4905
C4906
C4907
C4908
C4909
C4910
C4911
C4912
R3901
R3902
R3903
R3904
R3905
R3906
R3907
R3908
R3909
R3910
R3911
R3912
R3913
R3916
R3917
R3918
R3921
R3922
R3923
R3924
R3925
R3926
R3927
R3928
R4901
R4902
R4903
R4904
R4905
R4906
R4907
R4908
R4909
R4910
R4911
R4912
R4913
R4914
R4920
R4921
R4924
R4926
R4928
R4931
R4933
R4935
R4937
R4938

INPUT/OUTPUT PACK C.B.A.	
Transistor	
Q3901	C-3
Q3902	C-3
Q3903	B-3
Q3904	B-3
Transistor & Resistor	
QR3901	C-3
QR3902	C-3
QR3903	C-3
Integrated Circuit	
IC3901	C-2
IC3902	B-2
IC3903	A-4
IC3904	A-5
IC4901	C-4
IC4902	C-2
IC4903	C-1
IC4904	B-1
Connector	
PS3901	A-2
PS3902	A-4

ADDRESS INFORMATION

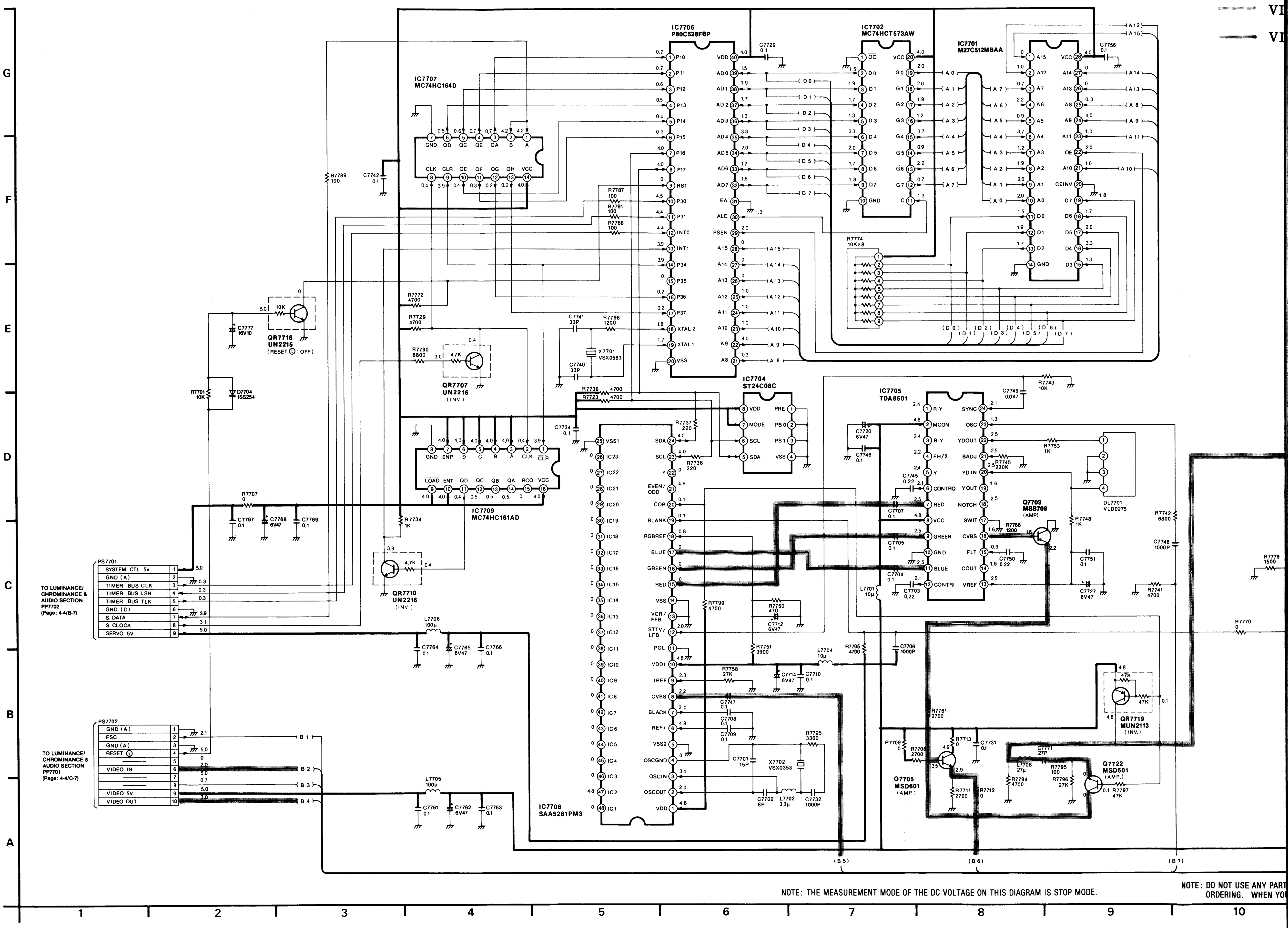
4-14. OSD PACK C.B.A. (VEP06993A)


C
B
A
1
2
3
4
X7701
IC7706
C7740
C7741
R7799
QR7710
R7734
IC7709
R7791
QR7707
R7772
QR7716
R7729
C7742
Ja
IC7707
C7769
R7787
C7767
R7707
C7768
IC7704
R7736
R7723
IC7701
C7734
C7756
R7774
C7729
K7705
R7790
IC7702
R7788
R7789
PS7701
C7720
L7701
IC7705
C7751
R7748
C7703
C7704
C7705
C7707
C7745
R7742
C7746
R7741
C7748
Q7704
R7730
R7757
R7727
C7738
Q7711
R7704
C7758
D7701
IC7703
Q7717
R7785
Q7720
R7784
C7773
L7706
C7765
Q7723
C7764
C7766
PS7702
C7777
D7704
R7701
C7750
DL7701
R7745
R7753
R7743
C7749
R7756
R7765
C7753
R7754
R7755
R7779
C7722
K7709
C7762
C7763
L7705
R7783
C7775
C7727
R7737
R7738
C7706
R7705
C7712
R7770
K7714
L7702
X7702
L7704
C7714
R7781
R7782
IC7708
R7750
R7799
R7751
R7768
Q7703
R7761
R7708
Q7705
R7709
R7713
C7731
R7711
C7709
R7758
R7797
C7747
Q7722
C7708
C7732
R7796
R7725
R7794
C7702
C7701
C7710
QR7719
C7761
R7795
C7771
L7708

OSD PACK C.B.A.	
Transistor	
Q7703	C-4
Q7704	B-3
Q7705	B-4
Q7711	B-3
Q7717	B-3
Q7720	A-3
Q7722	B-4
Q7723	A-3
Transistor & Resistor	
QR7707	B-1
QR7710	C-1
QR7716	B-1
QR7719	A-4
Integrated Circuit	
IC7701	C-2
IC7702	A-2
IC7703	B-3
IC7704	C-2
IC7705	C-3
IC7706	C-1
IC7707	B-1
IC7708	C-4
IC7709	C-1
Connector	
PS7701	A-1
PS7702	A-3

ADDRESS INFORMATION

4-15. OSD PACK SCHEMATIC DIAGRAM



IC7706 P80C528FBP
IC7702 MC74HCT573AW
IC7701 M27C512MBAA
IC7707 MC74HC164D
IC7709 MC74HC161AD
IC7704 ST24C08C
IC7705 TDA8501
IC7708 SAA5281PM3
QR7716 UN2215 (RESET ⓛ : OFF)
QR7707 UN2216 (INV.)
QR7710 UN2216 (INV.)
QR7719 MUN2113 (INV.)
Q7703 MSB709 (AMP)
Q7705 MSD601 (AMP)
Q7722 MSD601 (AMP)
X7701 VSX0583
X7702 VSX0353
DL7701 VLD0275
D7704 1SS254
R7774 10K×8
PS7701
SYSTEM CTL 5V
GND (A)
TIMER BUS CLK
TIMER BUS LSN
TIMER BUS TLK
GND (D)
S. DATA
S. CLOCK
SERVO 5V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7702 (Page: 4-4/B-7)
PS7702
GND (A)
FSC
GND (A)
RESET ⓛ
VIDEO IN
VIDEO 5V
VIDEO OUT
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7701 (Page: 4-4/C-7)
(B 1)
(B 2)
(B 3)
(B 4)
(B 5)
(B 6)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
VI
VI

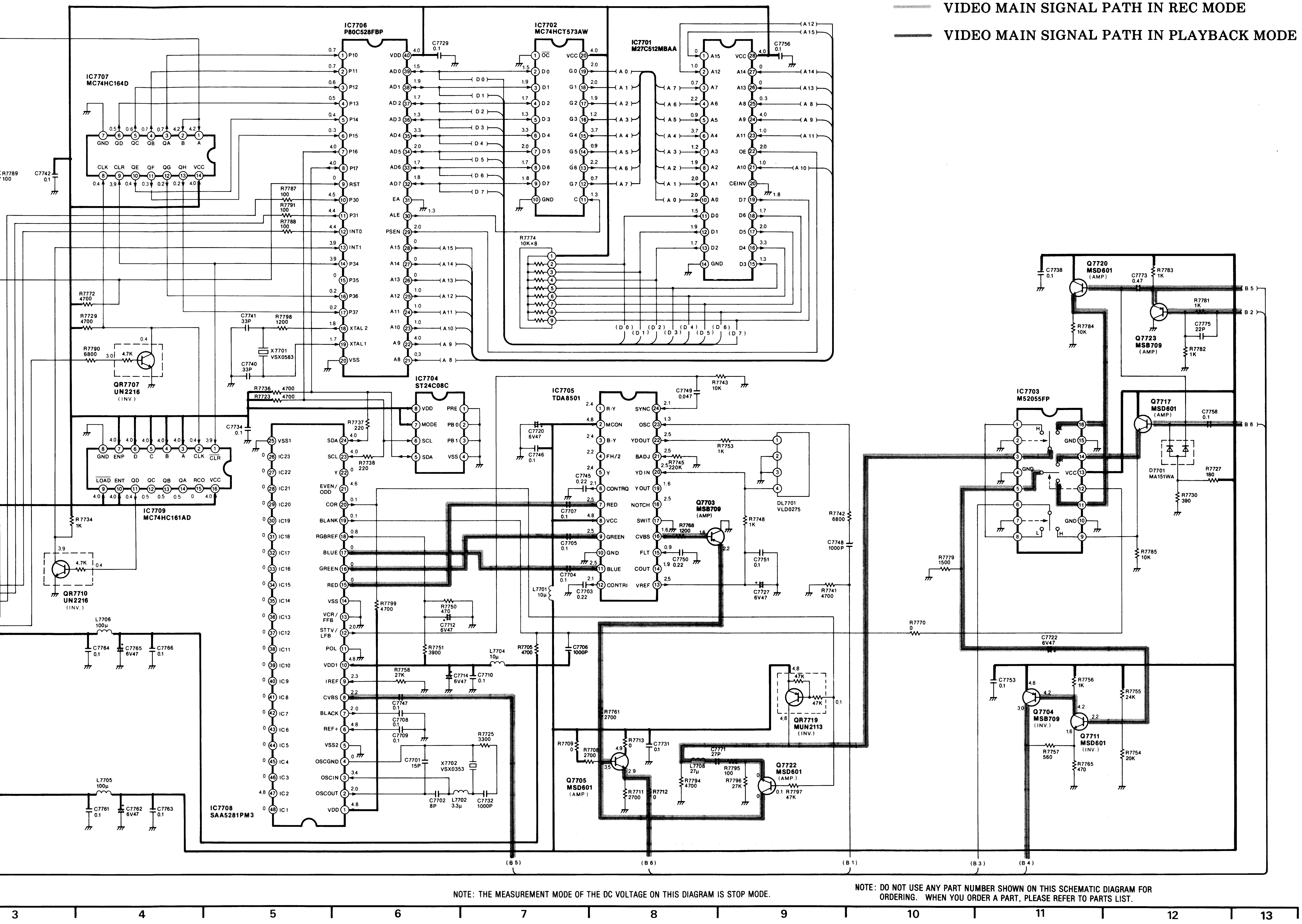
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART
ORDERING. WHEN YO

RAM

VIDEO MAIN SIGNAL PATH IN REC MODE

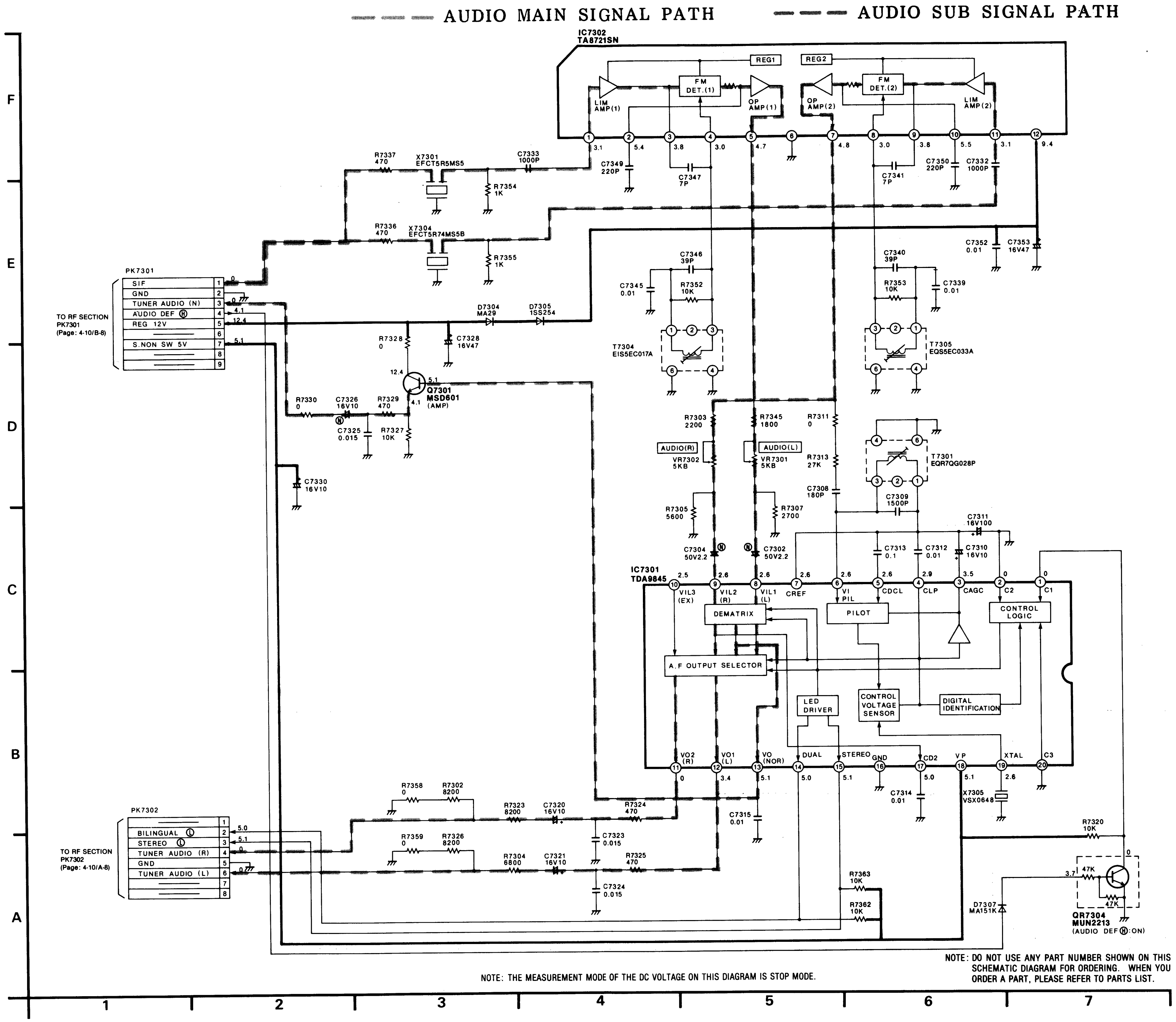
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE


IC7706 P80C528FBP
IC7702 MC74HCT573AW
IC7701 M27C512MBAA
IC7707 MC74HC164D
IC7709 MC74HC161AD
IC7704 ST24C08C
IC7705 TDA8501
IC7708 SAA5281PM3
IC7703 M52055FP
QR7707 UN2216 (INV.)
QR7710 UN2216 (INV.)
QR7719 MUN2113 (INV.)
Q7703 MSB709 (AMP)
Q7705 MSD601 (AMP)
Q7722 MSD601 (AMP.)
Q7704 MSB709 (INV.)
Q7711 MSD601 (INV.)
Q7720 MSD601 (AMP)
Q7723 MSB709 (AMP)
Q7717 MSD601 (AMP)
D7701 MA151WA
DL7701 VLD0275
X7701 VSX0583
X7702 VSX0353
R7774 10K×8
(B5)
(B2)
(B6)
(B1)
(B3)
(B4)
3
4
5
6
7
8
9
10
11
12
13

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-16. DECODER PACK SCHEMATIC DIAGRAM


AUDIO MAIN SIGNAL PATH
AUDIO SUB SIGNAL PATH
IC7302
TA8721SN
REG1
REG2
FM DET.(1)
FM DET.(2)
LIM AMP(1)
OP AMP(1)
OP AMP(2)
LIM AMP(2)
3.1
5.4
3.8
3.0
4.7
4.8
3.0
3.8
5.5
3.1
9.4
R7337 470
X7301 EFCT5R5MS5
C7333 1000P
R7354 1K
C7349 220P
C7347 7P
C7341 7P
C7350 220P
C7332 1000P
R7336 470
X7304 EFCT5R74MS5B
R7355 1K
C7352 0.01
C7353 16V47
C7346 39P
C7345 0.01
R7352 10K
T7304 EIS5EC017A
C7340 39P
R7353 10K
C7339 0.01
T7305 EQS5EC033A
PK7301
SIF
GND
TUNER AUDIO (N)
AUDIO DEF Ⓗ
REG 12V
S.NON SW 5V
TO RF SECTION PK7301 (Page: 4-10/B-8)
0
0
4.1
12.4
5.1
D7304 MA29
D7305 1SS254
R7328 0
C7328 16V47
12.4
5.1
4.1
Q7301 MSD601 (AMP)
R7330 0
C7326 16V10
Ⓝ
R7329 470
C7325 0.015
R7327 10K
C7330 16V10
R7303 2200
AUDIO(R)
VR7302 5KB
R7305 5600
C7304 50V2.2
R7345 1800
AUDIO(L)
VR7301 5KB
R7307 2700
C7302 50V2.2
R7311 0
R7313 27K
C7308 180P
T7301 EQR7QG028P
C7309 1500P
C7311 16V100
C7313 0.1
C7312 0.01
C7310 16V10
IC7301
TDA9845
2.5
2.6
2.6
2.6
2.6
2.6
2.9
3.5
0
0
VIL3 (EX)
VIL2 (R)
VIL1 (L)
CREF
VI PIL
CDCL
CLP
CAGC
C2
C1
DEMATRIX
PILOT
CONTROL LOGIC
A.F OUTPUT SELECTOR
LED DRIVER
CONTROL VOLTAGE SENSOR
DIGITAL IDENTIFICATION
VO2 (R)
VO1 (L)
VO (NOR)
DUAL
STEREO
GND
CD2
VP
XTAL
C3
0
3.4
5.1
5.0
5.1
5.0
5.1
2.6
C7315 0.01
C7314 0.01
X7305 VSX0648
R7320 10K
PK7302
BILINGUAL Ⓛ
STEREO Ⓛ
TUNER AUDIO (R)
GND
TUNER AUDIO (L)
TO RF SECTION PK7302 (Page: 4-10/A-8)
5.0
5.1
0
0
R7358 0
R7302 8200
R7323 8200
C7320 16V10
R7324 470
C7323 0.015
R7359 0
R7326 8200
R7304 6800
C7321 16V10
R7325 470
C7324 0.015
R7363 10K
R7362 10K
D7307 MA151K
3.7
47K
47K
0
QR7304 MUN2213 (AUDIO DEF Ⓗ:ON)
A
B
C
D
E
F
1
2
3
4
5
6
7

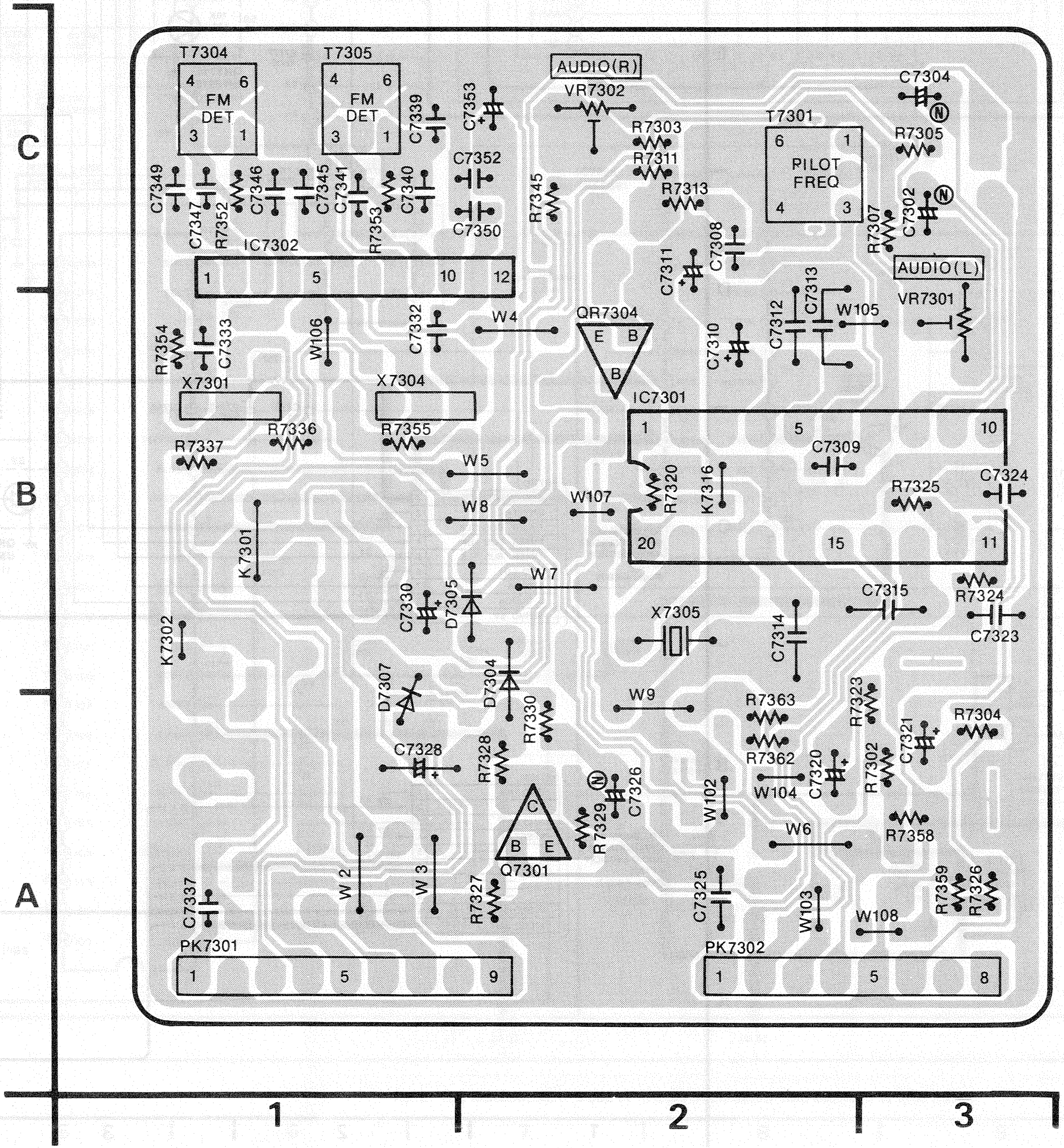
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

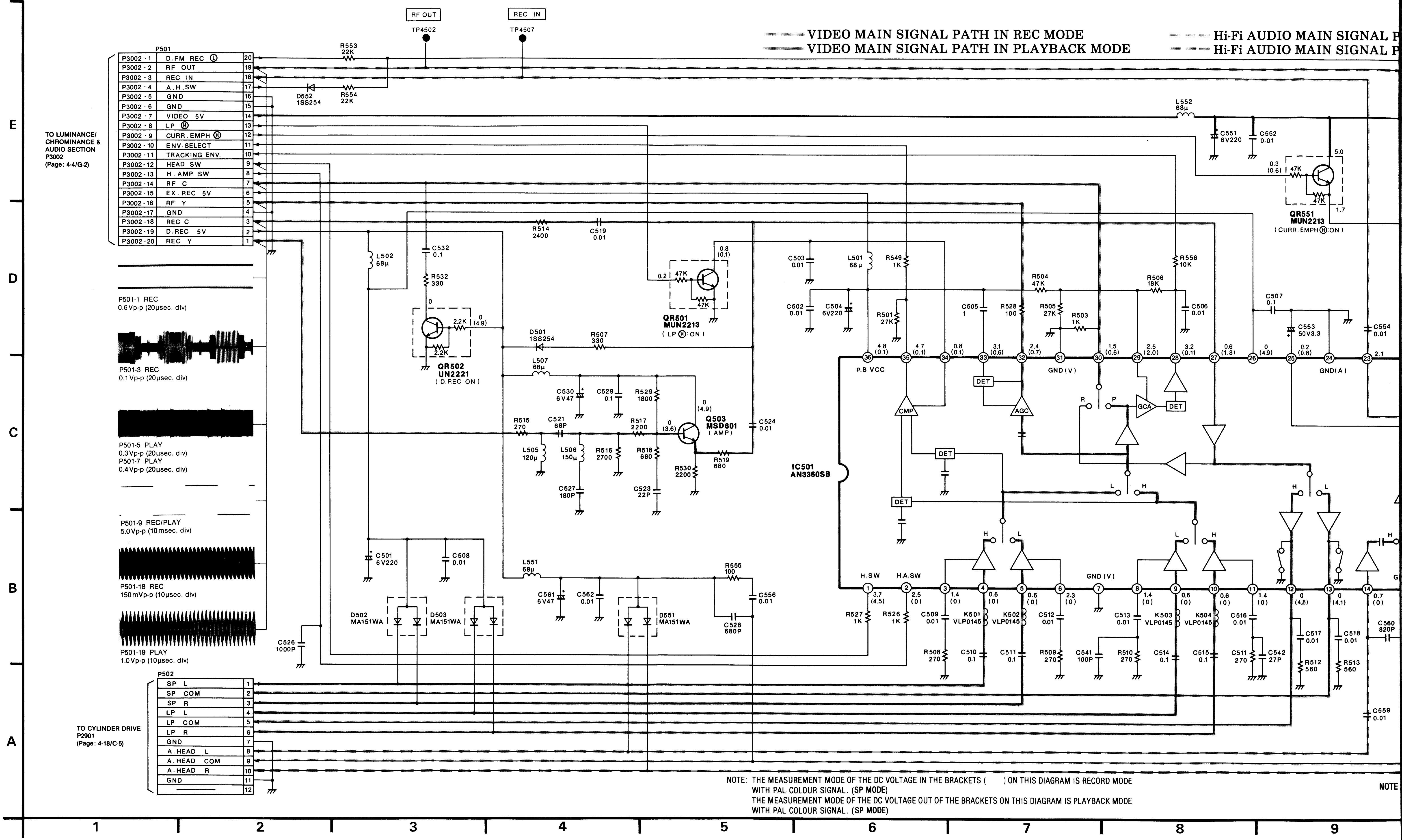
4-17. DECODER PACK C.B.A. (VEP07784A)

DECODER PACK C.B.A.	
Transistor	
Q7301	A-2
Transistor & Resistor	
QR7304	B-2
Integrated Circuit	
IC7301 IC7302	B-3 C-1
Adjustment	
VR7301 VR7302	B-3 C-2
Connector	
PK7301 PK7302	A-1 A-2

ADDRESS INFORMATION


C
B
A
1
2
3
T7304
4
6
FM DET
3
1
T7305
4
6
FM DET
3
1
C7339
C7353
AUDIO(R)
VR7302
R7303
R7311
R7313
T7301
6
1
PILOT FREQ
4
3
C7304
R7305
C7302
R7307
AUDIO(L)
VR7301
C7349
C7347
R7352
C7346
C7345
C7341
R7353
C7340
C7352
C7350
R7345
C7308
C7311
IC7302
1
5
10
12
R7354
C7333
W106
C7332
W4
QR7304
E
B
B
C7310
C7312
C7313
W105
X7301
X7304
IC7301
1
5
10
R7337
R7336
R7355
W5
W8
W107
R7320
K7316
C7309
R7325
C7324
20
15
11
K7301
W7
C7330
D7305
C7315
R7324
C7323
K7302
X7305
C7314
D7307
D7304
R7330
W9
R7363
R7323
R7304
C7328
R7328
R7362
W104
C7320
R7302
C7321
C7326
R7329
W102
W6
R7358
C
B
E
Q7301
C7337
W2
W3
R7327
C7325
W103
W108
R7359
R7326
PK7301
1
5
9
PK7302
1
5
8

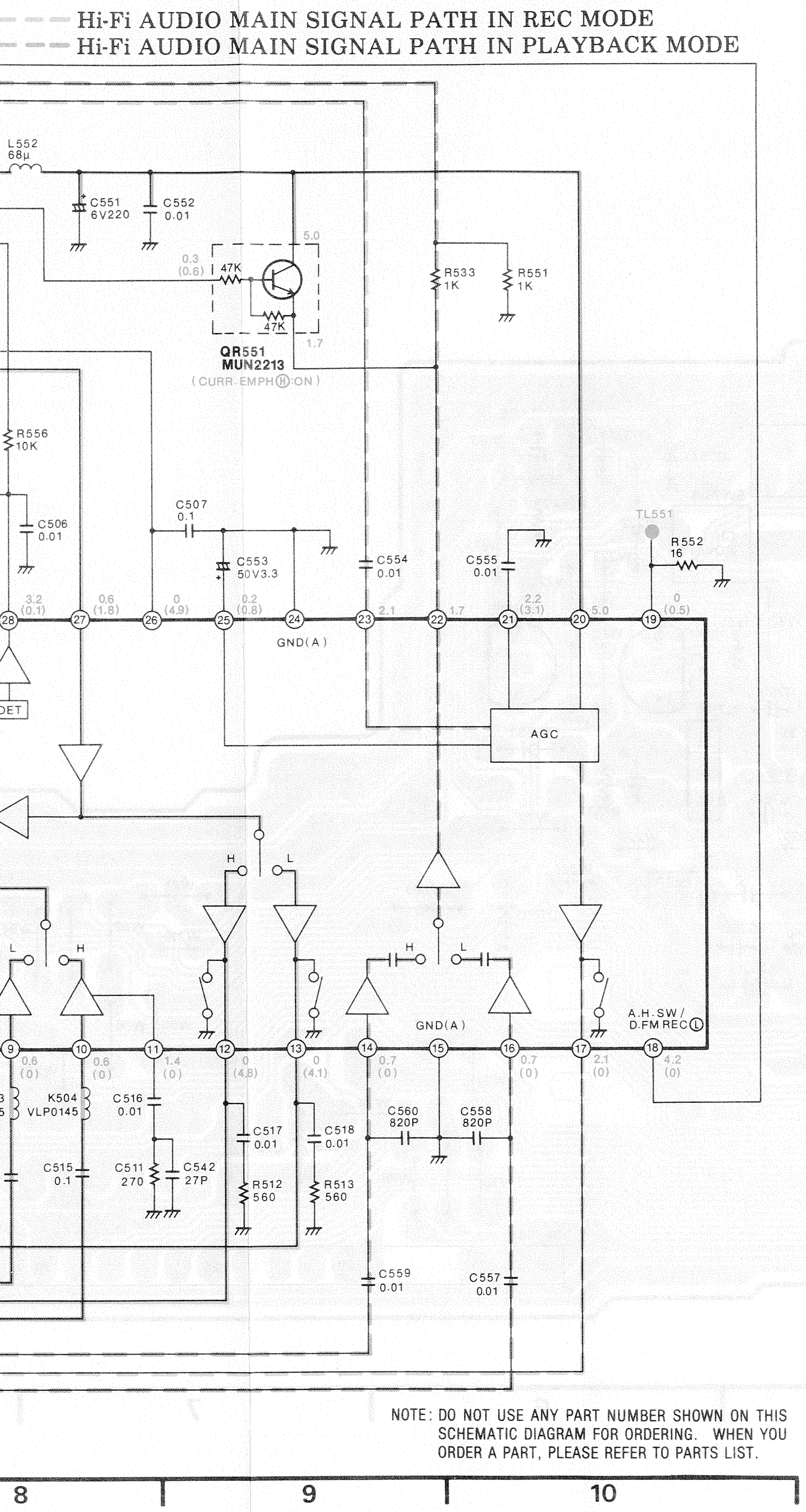
4-18. HEAD AMP SCHEMATIC DIAGRAM


VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
Hi-Fi AUDIO MAIN SIGNAL P
Hi-Fi AUDIO MAIN SIGNAL P
RF OUT
TP4502
REC IN
TP4507
P501
P3002 - 1 D.FM REC Ⓛ 20
P3002 - 2 RF OUT 19
P3002 - 3 REC IN 18
P3002 - 4 A.H.SW 17
P3002 - 5 GND 16
P3002 - 6 GND 15
P3002 - 7 VIDEO 5V 14
P3002 - 8 LP Ⓗ 13
P3002 - 9 CURR.EMPH Ⓗ 12
P3002 - 10 ENV.SELECT 11
P3002 - 11 TRACKING ENV. 10
P3002 - 12 HEAD SW 9
P3002 - 13 H.AMP SW 8
P3002 - 14 RF C 7
P3002 - 15 EX.REC 5V 6
P3002 - 16 RF Y 5
P3002 - 17 GND 4
P3002 - 18 REC C 3
P3002 - 19 D.REC 5V 2
P3002 - 20 REC Y 1
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION P3002 (Page: 4-4/G-2)
P501-1 REC 0.6Vp-p (20μsec. div)
P501-3 REC 0.1Vp-p (20μsec. div)
P501-5 PLAY 0.3Vp-p (20μsec. div)
P501-7 PLAY 0.4Vp-p (20μsec. div)
P501-9 REC/PLAY 5.0Vp-p (10msec. div)
P501-18 REC 150mVp-p (10μsec. div)
P501-19 PLAY 1.0Vp-p (10μsec. div)
P502
SP L 1
SP COM 2
SP R 3
LP L 4
LP COM 5
LP R 6
GND 7
A.HEAD L 8
A.HEAD COM 9
A.HEAD R 10
GND 11
12
TO CYLINDER DRIVE P2901 (Page: 4-18/C-5)
R553 22K
D552 1SS254
R554 22K
L502 68μ
C532 0.1
R532 330
QR502 UN2221 (D.REC:ON)
2.2K
R514 2400
C519 0.01
QR501 MUN2213 (LP Ⓗ:ON)
47K
D501 1SS254
R507 330
L507 68μ
C530 6V47
C529 0.1
R529 1800
Q503 MSD601 (AMP)
R515 270
C521 68P
R517 2200
C524 0.01
L505 120μ
L506 150μ
R516 2700
R518 680
R519 680
R530 2200
C527 180P
C523 22P
C501 6V220
C508 0.01
L551 68μ
C561 6V47
C562 0.01
R555 100
C556 0.01
C528 680P
D502 MA151WA
D503 MA151WA
D551 MA151WA
C526 1000P
C503 0.01
C502 0.01
C504 6V220
L501 68μ
R549 1K
R501 27K
C505 1
R528 100
R504 47K
R505 27K
R503 1K
R506 18K
R556 10K
C506 0.01
C507 0.1
C553 50V3.3
C554 0.01
L552 68μ
C551 6V220
C552 0.01
QR551 MUN2213 (CURR.EMPH Ⓗ:ON)
IC501 AN3360SB
P.B VCC
GND(V)
GND(A)
H.SW
H.A.SW
CMP
AGC
GCA
DET
R
P
H
L
R527 1K
R526 1K
C509 0.01
K501 VLP0145
K502 VLP0145
C512 0.01
C513 0.01
K503 VLP0145
K504 VLP0145
C516 0.01
R508 270
C510 0.1
C511 0.1
R509 270
C541 100P
R510 270
C514 0.1
C515 0.1
C511 270
C542 27P
C517 0.01
C518 0.01
R512 560
R513 560
C560 820P
C559 0.01
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE

4-19. HEAD AMP C.B.A. (VEP05204A)

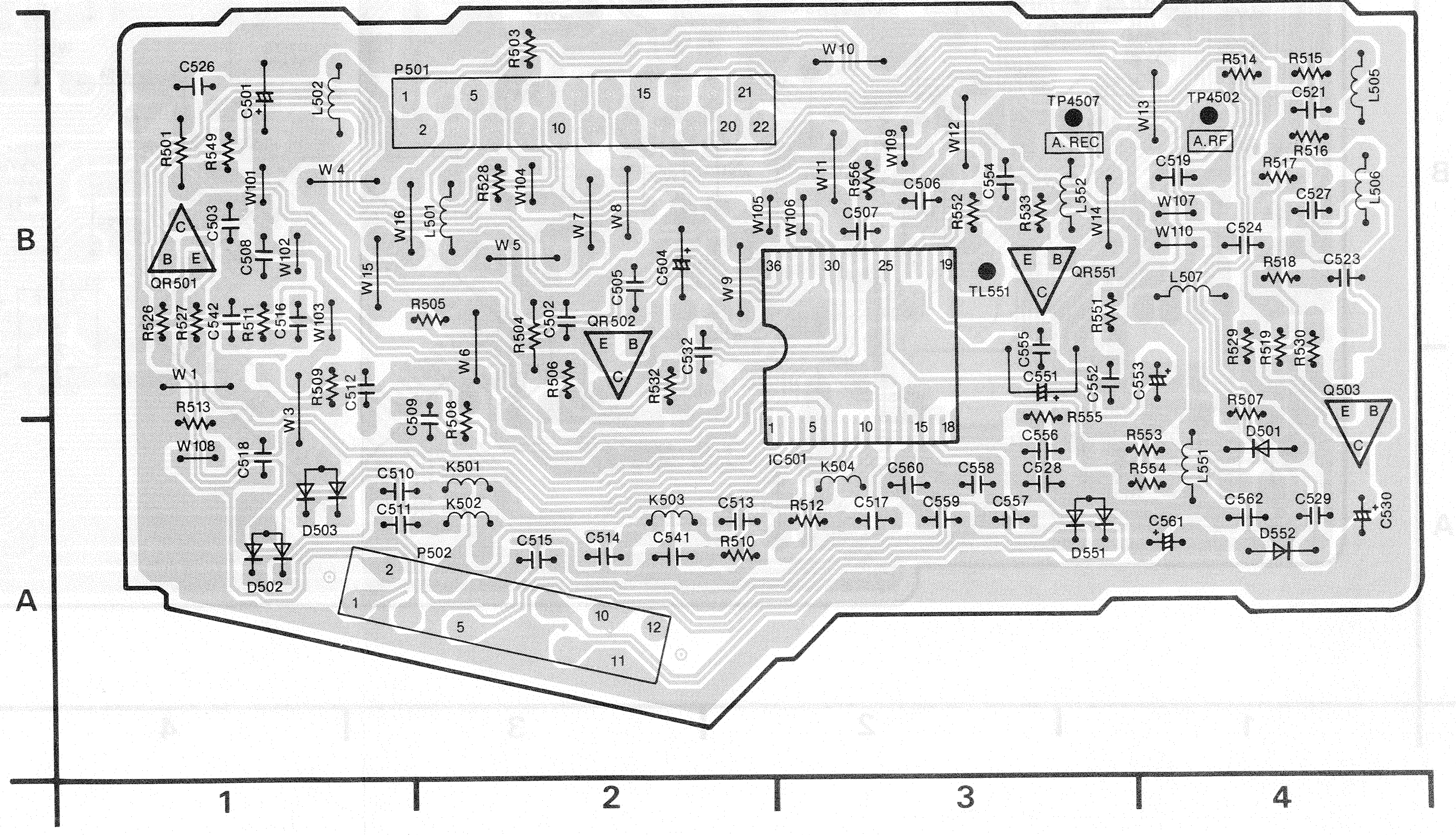


Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE
Hi-Fi AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
L552 68µ
C551 6V220
C552 0.01
47K
47K
QR551 MUN2213
(CURR.EMPH Ⓗ ON)
R533 1K
R551 1K
R556 10K
C506 0.01
C507 0.1
C553 50V3.3
C554 0.01
C555 0.01
TL551
R552 16
GND(A)
AGC
DET
A.H.SW / D.FM REC Ⓛ
K504 VLP0145
C516 0.01
C515 0.1
C511 270
C542 27P
C517 0.01
C518 0.01
R512 560
R513 560
C560 820P
C558 820P
C559 0.01
C557 0.01
8
9
10

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

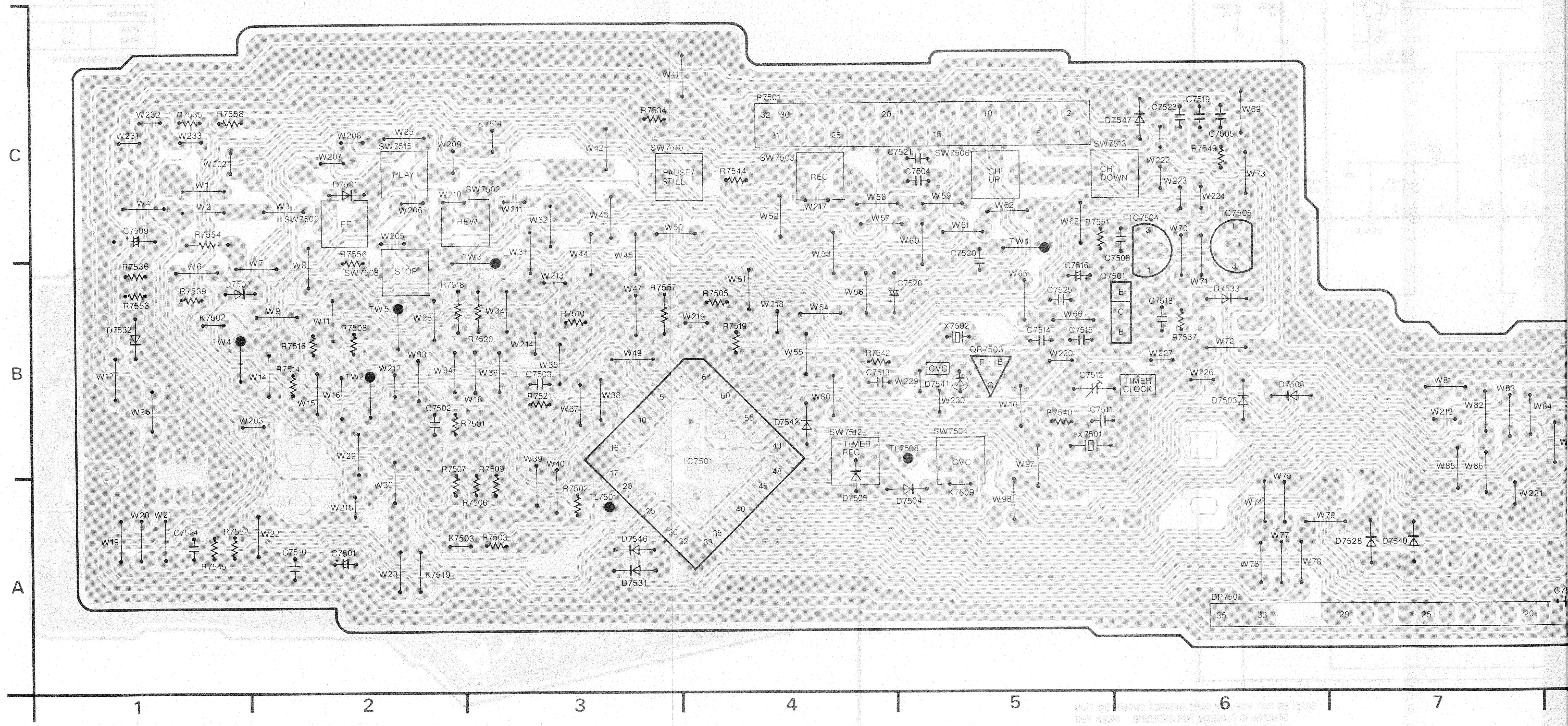
HEAD AMP C.B.A.	
Transistor	
Q503	A-4
Transistor & Resistor	
QR501 QR502 QR551	B-1 B-2 B-3
Integrated Circuit	
IC501	A-3
Test Point	
TL551 TP4502 TP4507	B-3 B-4 B-3
Connector	
P501 P502	B-2 A-2

ADDRESS INFORMATION



P501
P502
IC501
QR501
QR502
QR551
Q503
TL551
TP4507
A. REC
TP4502
A.RF
D501
D502
D503
D551
D552
K501
K502
K503
K504
L501
L502
L505
L506
L507
L551
L552
W1
W3
W4
W5
W6
W7
W8
W9
W10
W11
W12
W13
W14
W15
W16
W101
W102
W103
W104
W105
W106
W107
W108
W109
W110
A
B
1
2
3
4

4-20. TIMER C.B.A. (VEP07817A)


C
B
A
1
2
3
4
5
6
7
P7501
32 30 20 10 2
31 25 15 5 1
IC7501
IC7504
IC7505
Q7501
E
C
B
QR7503
X7501
X7502
DP7501
35 33 29 25 20
SW7515
PLAY
SW7509
FF
SW7502
REW
SW7508
STOP
SW7510
PAUSE/
STILL
SW7503
REC
SW7506
CH
UP
SW7513
CH
DOWN
SW7512
TIMER
REC
SW7504
CVC
TIMER
CLOCK
CVC
TW1
TW2
TW3
TW4
TW5
TL7501
TL7508
K7502
K7503
K7509
K7514
K7519
D7501
D7502
D7503
D7504
D7505
D7506
D7528
D7531
D7532
D7533
D7540
D7541
D7542
D7546
D7547
C7501
C7502
C7503
C7504
C7505
C7508
C7509
C7510
C7511
C7512
C7513
C7514
C7515
C7516
C7518
C7519
C7520
C7521
C7523
C7524
C7525
C7526
R7501
R7502
R7503
R7505
R7506
R7507
R7508
R7509
R7510
R7514
R7516
R7518
R7519
R7520
R7521
R7534
R7535
R7536
R7537
R7539
R7540
R7542
R7544
R7545
R7549
R7551
R7552
R7553
R7554
R7556
R7557
R7558
W1
W2
W3
W4
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W7
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W202
W203
W205
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W207
W208
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W210
W211
W212
W213
W214
W215
W216
W217
W218
W219
W220
W221
W222
W223
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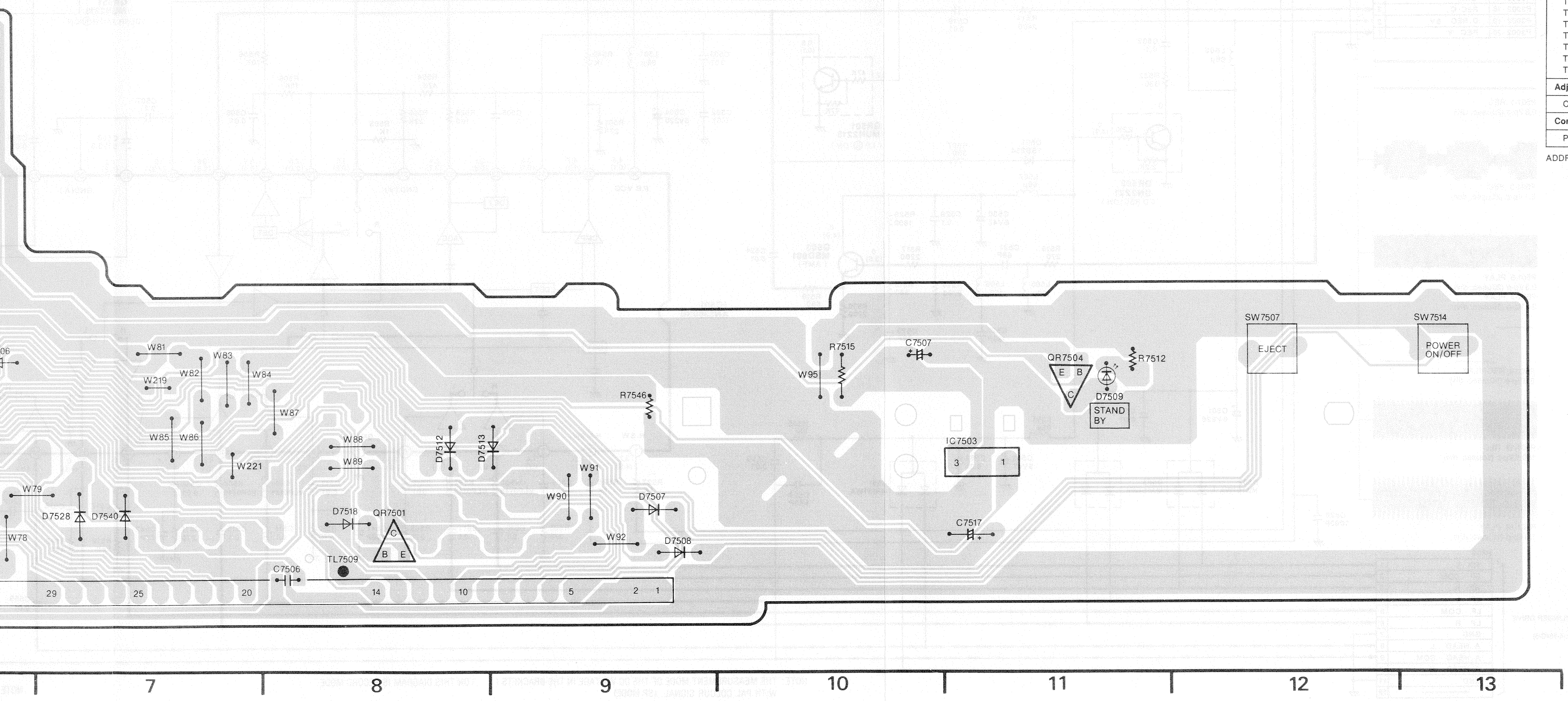
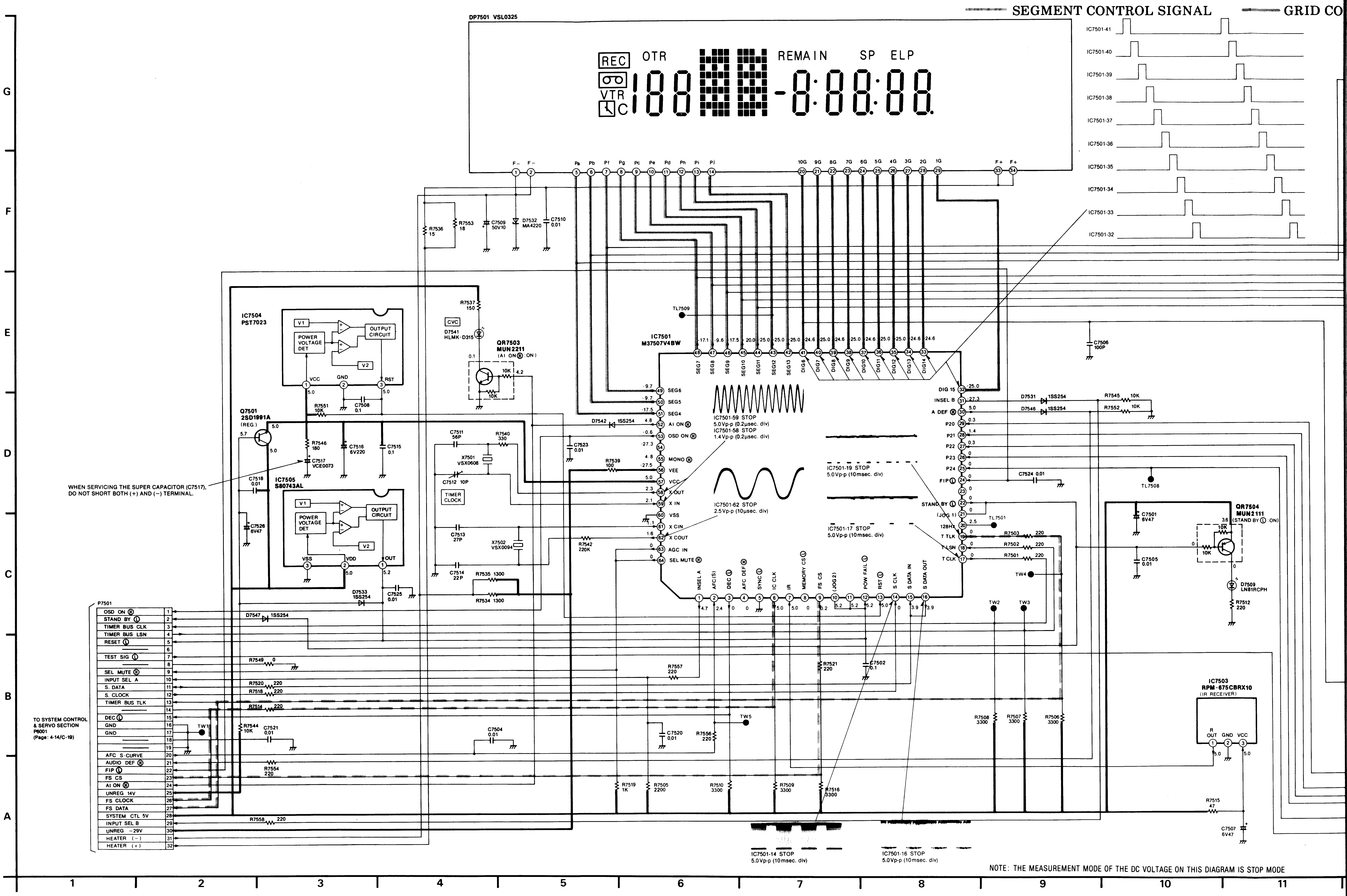
W226
W227
W229
W230
W231
W232
W233
1 5 10 16 17 20 25 30 32 33 35 40 45 48 49 55 60 64


06
W81
W83
W84
W82
W219
W87
W85
W86
W221
W88
W89
D7512
D7513
W79
D7528
D7540
W78
D7518
QR7501
C
B
E
TL7509
C7506
29
25
20
14
10
5
2
1
R7546
W91
W90
D7507
W92
D7508
W95
R7515
C7507
IC7503
3
1
C7517
QR7504
E
B
C
R7512
D7509
STAND BY
SW7507
EJECT
SW7514
POWER ON/OFF
7
8
9
10
11
12
13

TIMER C.B.A.	
Transistor	
Q7501	B-5
Transistor & Resistor	
QR7501 QR7503 QR7504	A-8 B-5 B-11
Integrated Circuit	
IC7501 IC7503 IC7504 IC7505	B-4 A-11 C-6 C-6
Test Point	
TL7501 TL7508 TL7509 TW1 TW2 TW3 TW4 TW5	A-2 B-5 A-8 C-1 B-2 B-3 B-1 B-5
Adjustment	
C7512	B-5
Connector	
P7501	C-4

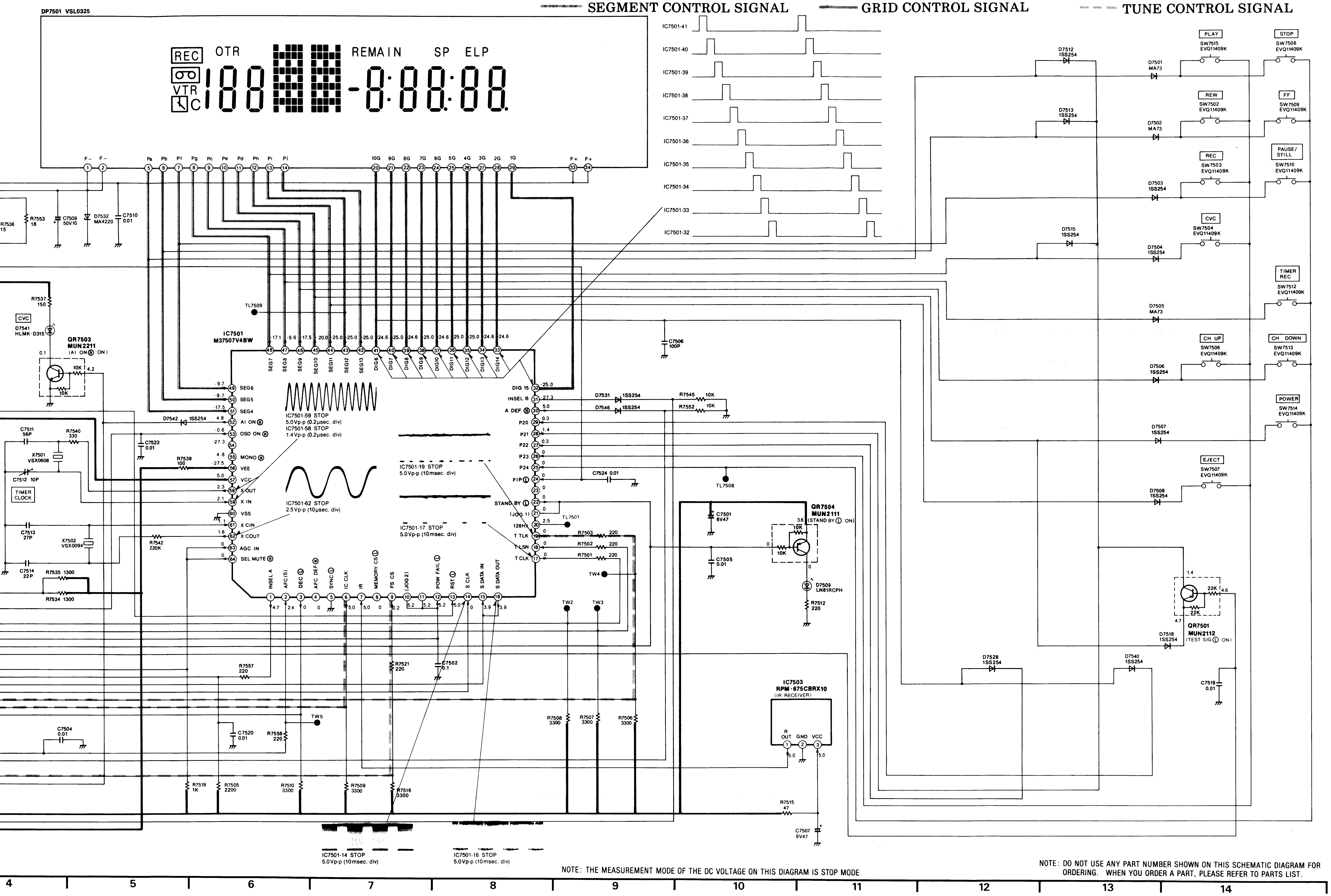
ADDRESS INFORMATION

4-21. TIMER SCHEMATIC DIAGRAM


SEGMENT CONTROL SIGNAL
GRID CO
DP7501 VSL0325
REC
OTR
REMAIN
SP
ELP
VTR
C
IC7501-41
IC7501-40
IC7501-39
IC7501-38
IC7501-37
IC7501-36
IC7501-35
IC7501-34
IC7501-33
IC7501-32
F- F-
Pa Pb Pf Pg Pc Pe Pd Ph Pi Pl
10G 9G 8G 7G 6G 5G 4G 3G 2G 1G
F+ F+
R7536 15
R7553 18
C7509 50V10
D7532 MA4220
C7510 0.01
R7537 150
CVC
D7541 HLMK-D315
QR7503 MUN2211 (AI ON Ⓗ ON)
10K
4.2
TL7509
IC7501 M37507V4BW
IC7504 PST7023
V1
POWER VOLTAGE DET
OUTPUT CIRCUIT
V2
VCC
GND
RST
Q7501 2SD1991A (REG.)
R7551 10K
C7508 0.1
R7546 180
C7516 6V220
C7515 0.1
C7517 VCE0073
C7518 0.01
IC7505 S80743AL
C7526 6V47
VSS
VDD
OUT
D7533 1SS254
C7525 0.01
C7511 56P
R7540 330
X7501 VSX0608
C7512 10P
TIMER CLOCK
C7513 27P
X7502 VSX0094
C7514 22P
R7535 1300
R7534 1300
C7523 0.01
D7542 1SS254
R7539 100
R7542 220K
SEG7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 DIG6 DIG7 DIG8 DIG9 DIG10 DIG11 DIG12 DIG13 DIG14
SEG6
SEG5
SEG4
AI ON Ⓗ
OSD ON Ⓗ
MONO Ⓗ
VEE
VCC
X OUT
X IN
VSS
X CIN
X COUT
AGC IN
SEL MUTE Ⓗ
IC7501-59 STOP 5.0Vp-p (0.2μsec. div)
IC7501-58 STOP 1.4Vp-p (0.2μsec. div)
IC7501-62 STOP 2.5Vp-p (10μsec. div)
IC7501-19 STOP 5.0Vp-p (10msec. div)
IC7501-17 STOP 5.0Vp-p (10msec. div)
DIG 15
INSEL B
A DEF Ⓗ
P20 P21 P22 P23 P24
FIP Ⓛ
STAND BY Ⓛ
(JOG 1)
128Hz
T TLK
T LSN
T CLK
TL7501
INSEL A
AFC(S)
DEC Ⓛ
AFC DEF Ⓗ
SYNC Ⓛ
IC CLK
IR
MEMORY CS Ⓛ
FS CS
(JOG 2)
POW FAIL Ⓛ
RST Ⓛ
S CLK
S DATA IN
S DATA OUT
D7531 1SS254
D7546 1SS254
R7545 10K
R7552 10K
C7506 100P
C7524 0.01
TL7508
R7503 220
R7502 220
R7501 220
TW4
TW2
TW3
C7501 6V47
C7505 0.01
QR7504 MUN2111 (STAND BY Ⓛ : ON)
D7509 LN81RCPH
R7512 220
IC7503 RPM-675CBRX10 (IR RECEIVER)
R OUT GND VCC
R7515 47
C7507 6V47
R7508 3300
R7507 3300
R7506 3300
R7521 220
C7502 0.1
R7557 220
TW5
C7520 0.01
R7556 220
R7519 1K
R7505 2200
R7510 3300
R7509 3300
R7516 3300
IC7501-14 STOP 5.0Vp-p (10msec. div)
IC7501-16 STOP 5.0Vp-p (10msec. div)
P7501
OSD ON Ⓗ
STAND BY Ⓛ
TIMER BUS CLK
TIMER BUS LSN
RESET Ⓛ
TEST SIG Ⓛ
SEL MUTE Ⓗ
INPUT SEL A
S. DATA
S. CLOCK
TIMER BUS TLK
DEC Ⓛ
GND
GND
AFC S-CURVE
AUDIO DEF Ⓗ
FIP Ⓛ
FS CS
AI ON Ⓗ
UNREG 14V
FS CLOCK
FS DATA
SYSTEM CTL 5V
INPUT SEL B
UNREG -29V
HEATER (-)
HEATER (+)
TO SYSTEM CONTROL & SERVO SECTION P6001 (Page: 4-14/C-19)
D7547 1SS254
R7549 0
R7520 220
R7518 220
R7514 220
TW1
R7544 10K
C7521 0.01
R7554 220
C7504 0.01
R7558 220
G F E D C B A
1 2 3 4 5 6 7 8 9 10 11

WHEN SERVICING THE SUPER CAPACITOR (C7517), DO NOT SHORT BOTH (+) AND (−) TERMINAL.

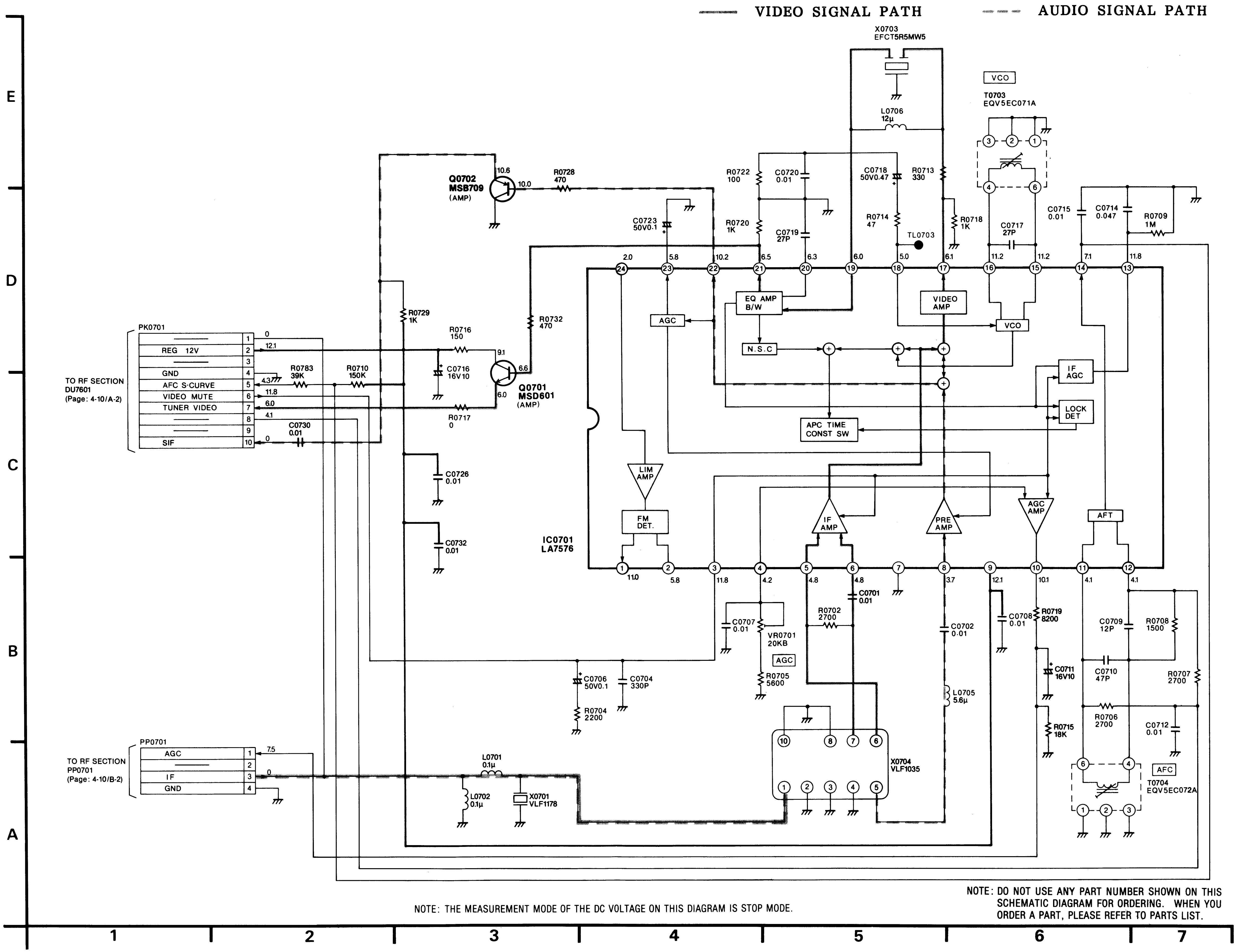
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE


SEGMENT CONTROL SIGNAL
GRID CONTROL SIGNAL
TUNE CONTROL SIGNAL
DP7501 VSL0325
REC
OTR
REMAIN
SP
ELP
VTR
C
188
8:88:88
F− F− Pa Pb Pf Pg Pc Pe Pd Ph Pi Pj
10G 9G 8G 7G 6G 5G 4G 3G 2G 1G F+ F+
IC7501-41
IC7501-40
IC7501-39
IC7501-38
IC7501-37
IC7501-36
IC7501-35
IC7501-34
IC7501-33
IC7501-32
R7536 15
R7553 18
C7509 50V10
D7532 MA4220
C7510 0.01
R7537 150
CVC
D7541 HLMK-D315
QR7503 MUN2211 (AI ON Ⓗ : ON)
10K 4.2
10K
0.1
C7511 56P
R7540 330
X7501 VSX0608
C7512 10P
TIMER CLOCK
C7523 0.01
R7539 100
C7513 27P
X7502 VSX0094
R7542 220K
C7514 22P
R7535 1300
R7534 1300
D7542 1SS254
TL7509
IC7501 M37507V4BW
SEG7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 DIG6 DIG7 DIG8 DIG9 DIG10 DIG11 DIG12 DIG13 DIG14
SEG6 SEG5 SEG4 AI ON Ⓗ OSD ON Ⓗ MONO Ⓗ VEE VCC X OUT X IN VSS X CIN X COUT AGC IN SEL MUTE Ⓗ
IC7501-59 STOP 5.0Vp-p (0.2μsec. div)
IC7501-58 STOP 1.4Vp-p (0.2μsec. div)
IC7501-62 STOP 2.5Vp-p (10μsec. div)
IC7501-19 STOP 5.0Vp-p (10msec. div)
IC7501-17 STOP 5.0Vp-p (10msec. div)
DIG 15 INSEL B A DEF Ⓗ P20 P21 P22 P23 P24 FIP Ⓛ STAND BY Ⓛ (JOG 1) 128Hz T TLK T LSN T CLK
INSEL A AFC(S) DEC Ⓛ AFC DEF Ⓗ SYNC Ⓛ IC CLK IR MEMORY CS Ⓛ FS CS (JOG 2) POW FAIL Ⓛ RST Ⓛ S CLK S DATA IN S DATA OUT
D7531 1SS254
D7546 1SS254
R7545 10K
R7552 10K
C7506 100P
C7524 0.01
TL7508
TL7501
R7503 220
R7502 220
R7501 220
TW4
TW2 TW3
TW5
C7501 6V47
C7505 0.01
QR7504 MUN2111 (STAND BY Ⓛ : ON)
10K
D7509 LN81RCPH
R7512 220
R7557 220
R7521 220
C7502 0.1
C7504 0.01
C7520 0.01
R7556 220
R7519 1K
R7505 2200
R7510 3300
R7509 3300
R7516 3300
R7508 3300
R7507 3300
R7506 3300
IC7503 RPM-675CBRX10 (IR RECEIVER)
R OUT GND VCC
R7515 47
C7507 6V47
IC7501-14 STOP 5.0Vp-p (10msec. div)
IC7501-16 STOP 5.0Vp-p (10msec. div)
PLAY SW7515 EVQ11409K
STOP SW7508 EVQ11409K
D7512 1SS254
D7501 MA73
REW SW7502 EVQ11409K
FF SW7509 EVQ11409K
D7513 1SS254
D7502 MA73
REC SW7503 EVQ11409K
PAUSE/STILL SW7510 EVQ11409K
D7503 1SS254
CVC SW7504 EVQ11409K
D7515 1SS254
D7504 1SS254
TIMER REC SW7512 EVQ11409K
D7505 MA73
CH UP SW7506 EVQ11409K
CH DOWN SW7513 EVQ11409K
D7506 1SS254
POWER SW7514 EVQ11409K
D7507 1SS254
EJECT SW7507 EVQ11409K
D7508 1SS254
QR7501 MUN2112 (TEST SIG Ⓛ : ON)
22K 22K
D7518 1SS254
D7528 1SS254
D7540 1SS254
C7519 0.01
4 5 6 7 8 9 10 11 12 13 14

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-22. TV DEMODULATOR PACK SCHEMATIC DIAGRAM


VIDEO SIGNAL PATH
AUDIO SIGNAL PATH
E
D
C
B
A
1
2
3
4
5
6
7
TO RF SECTION
DU7601
(Page: 4-10/A-2)
PK0701
REG 12V
GND
AFC S-CURVE
VIDEO MUTE
TUNER VIDEO
SIF
TO RF SECTION
PP0701
(Page: 4-10/B-2)
PP0701
AGC
IF
GND
Q0702
MSB709
(AMP)
Q0701
MSD601
(AMP)
R0728
470
R0729
1K
R0716
150
C0716
16V10
R0732
470
R0783
39K
R0710
150K
R0717
0
C0730
0.01
C0726
0.01
C0732
0.01
IC0701
LA7576
C0723
50V0.1
R0722
100
R0720
1K
C0720
0.01
C0719
27P
X0703
EFCT5R5MW5
L0706
12µ
C0718
50V0.47
R0713
330
R0714
47
R0718
1K
TL0703
VCO
T0703
EQV5EC071A
C0717
27P
C0715
0.01
C0714
0.047
R0709
1M
EQ AMP
B/W
AGC
N.S.C
VIDEO
AMP
VCO
IF
AGC
LOCK
DET
APC TIME
CONST SW
LIM
AMP
FM
DET.
IF
AMP
PRE
AMP
AGC
AMP
AFT
C0707
0.01
VR0701
20KB
AGC
R0705
5600
R0702
2700
C0701
0.01
C0702
0.01
L0705
5.6µ
C0708
0.01
R0719
8200
C0711
16V10
R0715
18K
C0709
12P
R0708
1500
C0710
47P
R0707
2700
R0706
2700
C0712
0.01
AFC
T0704
EQV5EC072A
C0706
50V0.1
C0704
330P
R0704
2200
X0704
VLF1035
L0701
0.1µ
L0702
0.1µ
X0701
VLF1178

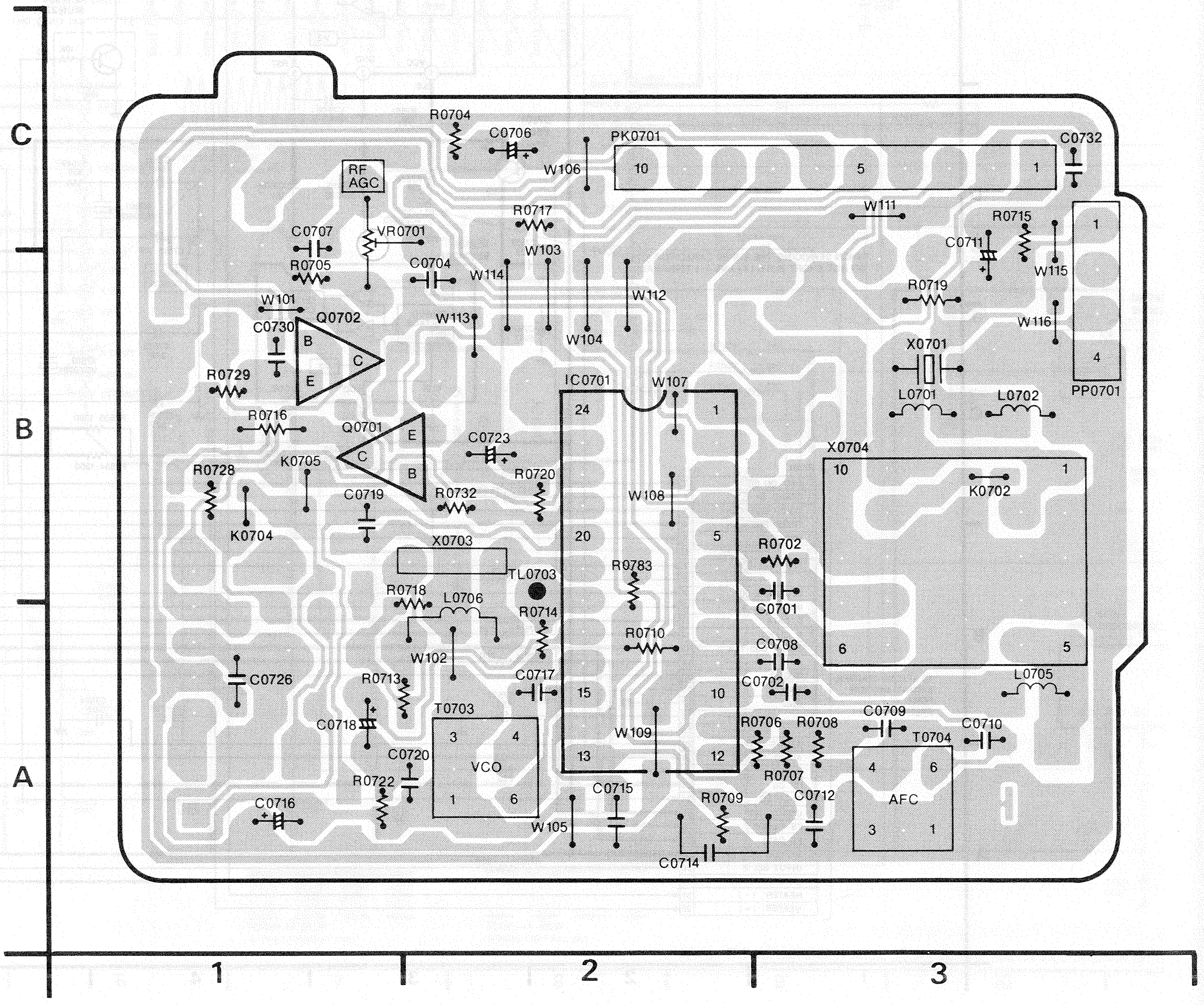
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-23. TV DEMODULATOR PACK C.B.A. (VEP07801B)

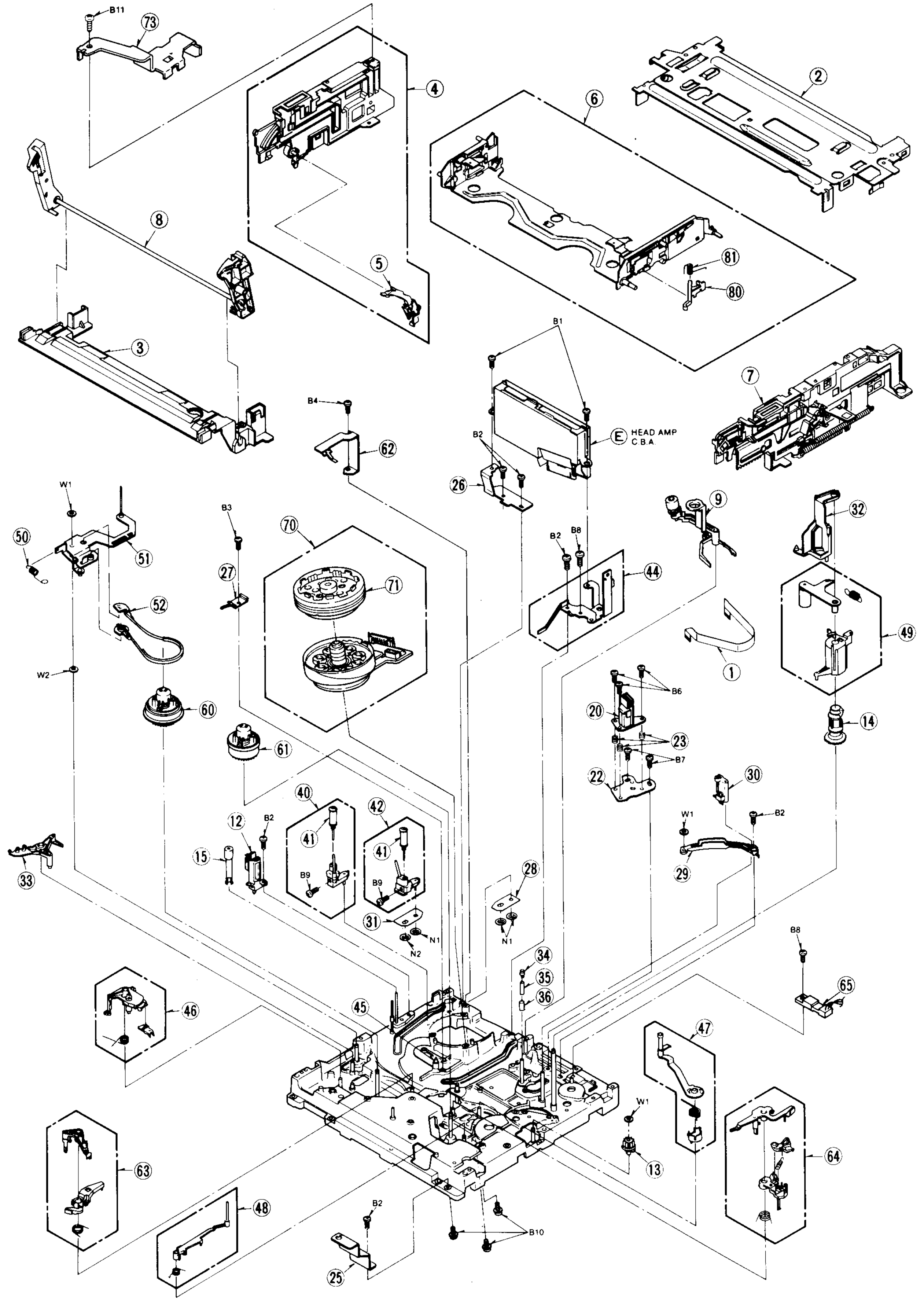
TV DEMODULATOR PACK C.B.A.	
Transistor	
Q0701 Q0702	B-1 B-1
Integrated Circuit	
IC0701	B-2
Test Point	
TL0703	B-2
Adjustment	
T0703 T0704 VR0701	A-2 A-3 C-1
Connector	
PK0701 PP0701	C-2 C-3

ADDRESS INFORMATION



C
B
A
1
2
3
R0704
C0706
PK0701
10
5
1
C0732
RF AGC
W106
R0717
W111
R0715
C0711
W115
C0707
VR0701
W103
R0705
C0704
W114
W112
R0719
W101
Q0702
W113
W104
W116
C0730
B
C
E
X0701
R0729
IC0701
W107
24
1
PP0701
4
L0701
L0702
R0716
Q0701
E
C
B
C0723
R0728
K0705
R0720
X0704
10
1
K0702
C0719
R0732
W108
K0704
20
5
R0702
X0703
TL0703
R0783
C0701
R0718
L0706
R0714
R0710
C0708
6
5
W102
C0726
R0713
C0717
15
10
C0702
L0705
T0703
C0718
3
4
W109
R0706
R0708
C0709
T0704
C0710
VCO
13
12
R0707
4
6
C0720
R0722
1
6
C0715
R0709
C0712
AFC
C0716
W105
3
1
C0714

SECTION 5
EXPLODED VIEWS & PARTS LIST
5-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST
❶ CHASSIS PARTS SECTION (1)



B11
73
4
6
2
8
5
81
80
3
B1
7
B4
62
E HEAD AMP C.B.A.
B2
26
W1
9
32
B3
70
71
50
51
27
B2
B8
44
52
49
W2
1
B6
20
60
23
14
61
B7
22
30
40
42
12
B2
W1
B2
41
41
15
B9
B9
29
33
31
28
N1
N2
N1
B8
34
35
36
65
46
45
47
W1
13
64
63
48
B2
B10
25

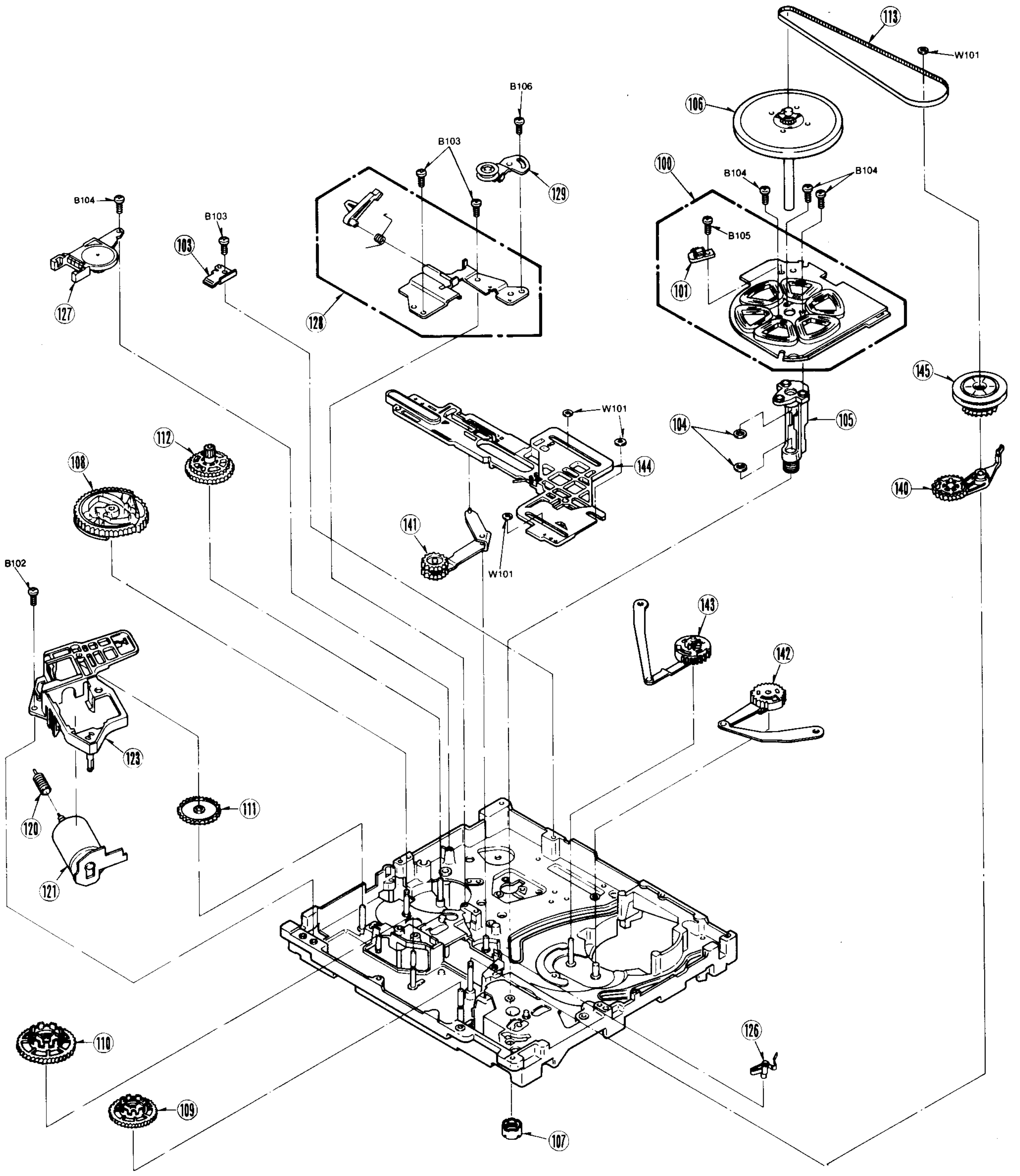
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VWJ0743	FLEXIBLE CABLE (6P)	1	P4002-P1501
2(1)		VMA8644	TOP PLATE	1	
3(1)		VMA8787	CASSETTE GUIDE	1	
4(1)		VXA4660	SIDE PLATE (L) UNIT	1	
5(1)		VML2902	OPENER LEVER	1	
6(1)		VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)		VXA4806	SIDE PLATE (R) UNIT	1	
8(1)		VXP1339	MAIN SHAFT UNIT	1	
9(1)		VXL2440	CLEANER ARM UNIT	1	
12(1)		VBS0052	FE HEAD	1	
13(1)		VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)		VDG0886	PINCH CAM GEAR	1	
15(1)		VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)		VED0205	A/C HEAD (1) UNIT	1	
22(1)		VMA8624	A/C HEAD BASE	1	
23(1)		VMB2515	A/C HEAD SPRING	3	
25(1)		VMA8761	MOUNT ANGLE	1	
26(1)		VMA9158	HEAD AMP MOUNT ANGLE (L)	1	
27(1)		VMC0917	EARTH SPRING	1	
28(1)		VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)		VMD2078	P5 STOPPER BASE	1	
30(1)		VXA4927	P5 POST STOPPER	1	
31(1)		VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)		VMD2101	OPENER PIECE	1	
33(1)		VML2776	TENSION SPRING ARM	1	
34(1)		VMX1544	P4 UPPER LIMITER	1	
35(1)		VMX2175	P4 SLEEVE	1	
36(1)		VMX2176	P4 LOWER LIMITER	1	
40(1)		VXA5245KIT	INCLINED BASE (S) UNIT	1	OR VXA4982KIT
41(1)		VXP1415	ROLLER POST	2	
42(1)		VXA5247KIT	INCLINED BASE (T) UNIT	1	OR VXA4984KIT
44(1)		VXA4974	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)		VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)		VXL2310	REVIEW ARM UNIT	1	
47(1)		VXL2306	P5 ARM UNIT	1	
48(1)		VXL2394	TAKE UP TENSION REGULATOR ARM UNIT	1	
49(1)		VXL2246	PINCH ARM UNIT	1	
50(1)		VMB2434	TENSION SPRING	1	
51(1)		VXL2309	TENSION ARM (1) UNIT	1	
52(1)		VXZ0310	TENSION BAND UNIT	1	
60(1)		VXR0221	SUPPLY REEL TABLE UNIT	1	
61(1)		VXR0222	TAKE UP REEL TABLE UNIT	1	
62(1)		VXS0131	EARTH PLATE	1	
63(1)		VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)		VXZ0313	TAKE UP BRAKE ARM UNIT	1	
65(1)		2SB941PSW	POWER TRANSISTOR	1	
70(1)		VEG1177	CYLINDER UNIT	1	[SUPPLIED FROM MBV]
71(1)		VXP1515	UPPER CYLINDER UNIT	1	[SUPPLIED FROM MBV]
73(1)		VMA9201	CYLINDER ANGLE	1	
80(1)		VML2680	RELEASE LEVER	1	
81(1)		VMB2013	RELEASE SPRING	1	
B1(1)		VHD0773	SCREW	2	
B2(1)		XTV26+6F	SCREW	6	
B4(1)		XTN3+6FFZ	SCREW	1	
B3(1)		XTV26+4F	SCREW	1	
B6(1)		VHD0762	SCREW	3	
B7(1)		XTV26+6FZ	SCREW	2	
B8(1)		XTV26+8F	SCREW	2	
B9(1)		XQN2+AJ4	SCREW	2	
B10(1)		VHD0342	SCREW	3	
B11(1)		XTB26+8G	SCREW	1	
N1(1)		VHN0192	NUT	3	
N2(1)		VHN0193	NUT	1	
W1(1)		VMX2208	WASHER	3	
W2(1)		XWGV26D5G	WASHER	1	

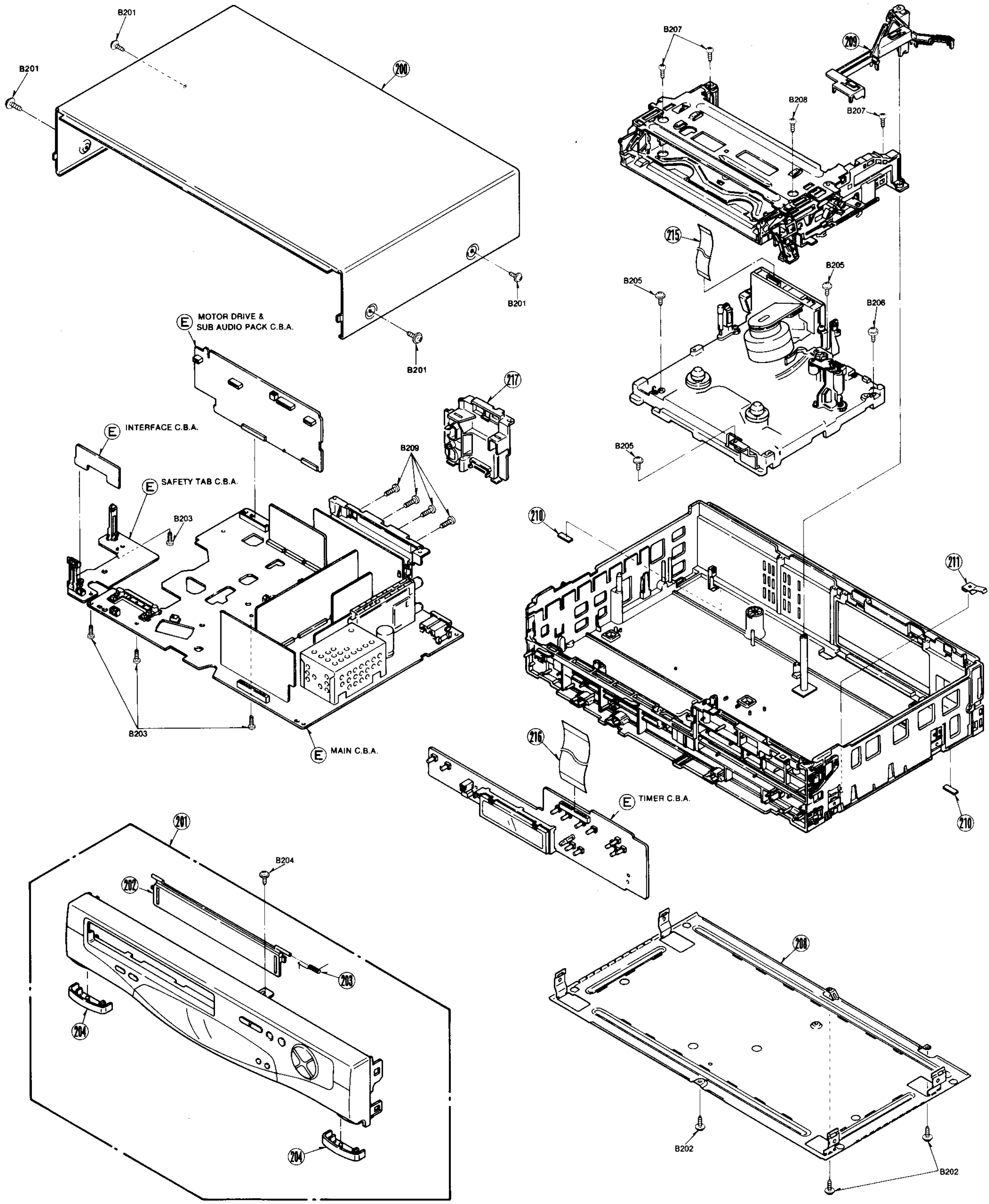
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100(2)		VEK5927	CAPSTAN STATOR UNIT	1	
101(2)		VBK0061	FG HEAD	1	
103(2)		VMA8930	ROTOR STOPPER	1	
104(2)		VMX1927	OIL SEAL	2	
105(2)		VXD0140	HOUSING UNIT	1	
106(2)		VXP1519	CAPSTAN ROTOR UNIT	1	
107(2)		VXQ0297	THRUST SCREW UNIT	1	
108(2)		VDG0913	MAIN CAM GEAR	1	
109(2)		VDG0956	SUPPLY REEL GEAR	1	
110(2)		VDG0957	TAKE UP REEL GEAR	1	
111(2)		VDG0868	WORM WHEEL GEAR	1	
112(2)		VDG0885	SUB CAM GEAR	1	
113(2)		VDV0235	TIMING BELT	1	
120(2)		VDG0866	WORM GEAR	1	
121(2)		VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)		VMD1942	MOTOR BRACKET	1	
126(2)		VML2725	IDLER CONTROL LEVER	1	
127(2)		VSS0365	MODE SW	1	
128(2)		VXA5138	SS BRAKE BASE UNIT	1	
129(2)		VXA4799	TENSION ROLLER UNIT	1	
140(2)		VXL2378	IDLER ARM UNIT	1	
141(2)		VXL2372	DIRECT LEVER UNIT	1	
142(2)		VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)		VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)		VXL2307	MAIN LEVER UNIT	1	
145(2)		VXP1409	CENTRE CLUTCH	1	
B102(2)		XTV26+8F	SCREW	1	
B103(2)		XTV26+6F	SCREW	3	
B104(2)		VHD0753	SCREW	4	
B105(2)		VHD0754	SCREW	1	
B106(2)		XSB26+4FZ	SCREW	1	
W101(2)		VMX2208	WASHER	4	

❷ CHASSIS PARTS SECTION (2)



❸ CASING PARTS SECTION


B201
B201
200
B201
B201
Ⓔ MOTOR DRIVE & SUB AUDIO PACK C.B.A.
Ⓔ INTERFACE C.B.A.
Ⓔ SAFETY TAB C.B.A.
B203
B209
217
B203
Ⓔ MAIN C.B.A.
B207
209
B208
B207
215
B205
B205
B206
B205
210
211
216
Ⓔ TIMER C.B.A.
210
201
B204
202
203
204
204
208
B202
B202

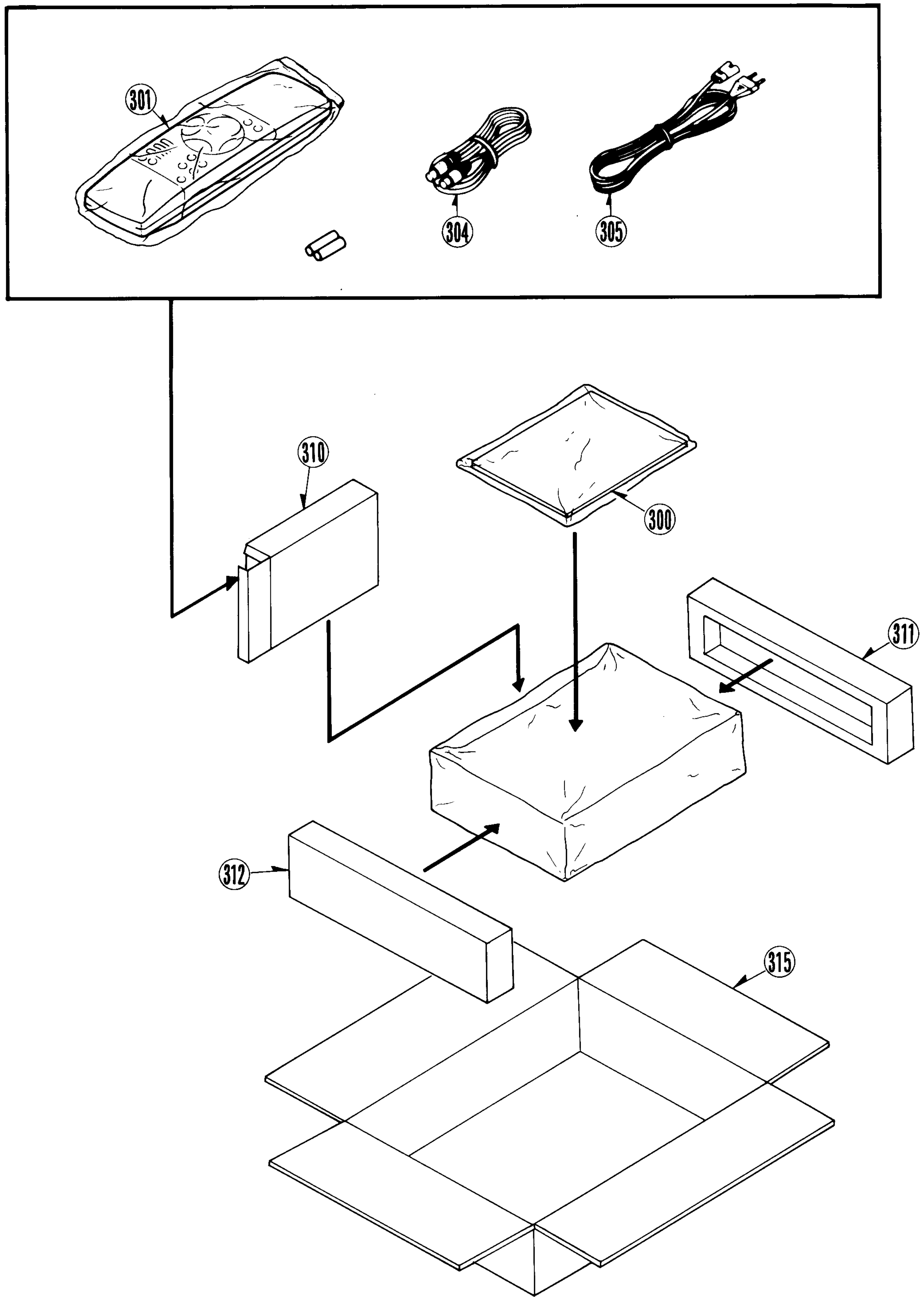
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
200(3)		VGM1105	TOP PANEL	1	[SUPPIED FROM MBV]
201(3)		VYP5747	FRONT PANEL UNIT	1	[SUPPIED FROM MBV]
202(3)		VKF2293	BLINDER PANEL	1	[SUPPIED FROM MBV]
203(3)		VMB2521	BLINDER SPRING	1	
204(3)		VKA0153	LEG	2	
208(3)		VKU0404	BOTTOM PLATE	1	
209(3)		VJF1134	PACK HOLDER	1	[SUPPIED FROM MBV]
210(3)		VKA0122	FOOT	2	
211(3)		VMC1065	EARTH SPRING	1	
215(3)		VWJ0875	FLAT CARD CABLE	1	[SUPPIED FROM MBV]
					P501-P3002
216(3)		VWJ32C9160BB	FLAT CARD CABLE	1	P6001-P7501
217(3)		VJH0790	ANTENNA JACK PLATE	1	[SUPPIED FROM MBV]
B201(3)		XTW3+10TFZ	SCREW	4	
B202(3)		VHD0059	SCREW	3	
B203(3)		VHD0772	SCREW	4	
B204(3)		VHD0773	SCREW	3	
B205(3)		VHD0168	SCREW	3	
B206(3)		VHD0874	SCREW	1	
B207(3)		XTV26+8FR	SCREW	3	
B208(3)		XTV26+10F	SCREW	1	
B209(3)		XTV3+8FZ	SCREW	4	

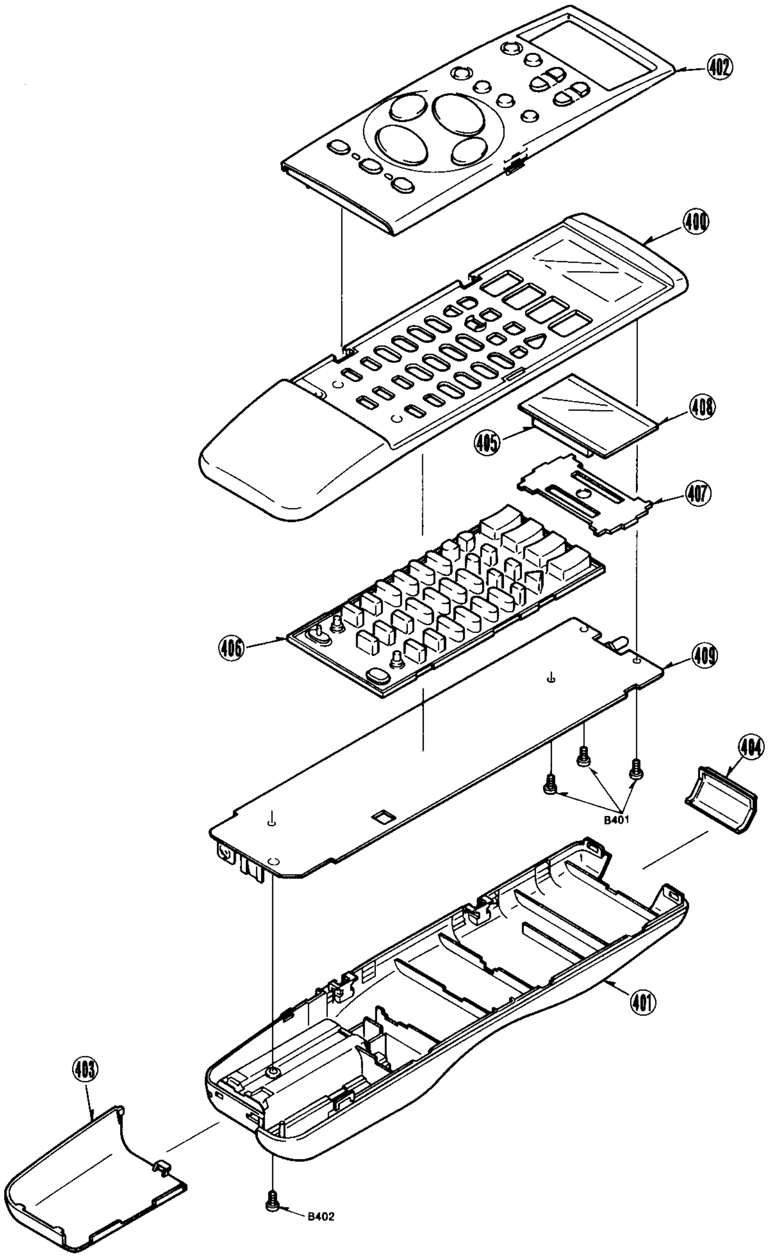
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
300(4)		VQT5899	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM MBV]
			(ENGLISH/GERMAN/ITALIAN)		<!>
300(4)		VQT5900	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM MBV]
			(FRENCH/DUTCH)		<!>
301(4)		VEQ1656	REMOTE CONTROLLER	1	[SUPPLIED FROM MBV]
304(4)		VJA0710	DIN RF CABLE	1	
305(4)		VJA0664	AC CORD	1	<!>
310(4)		VPK0825	ACCESSORIES PAKING	1	
311(4)		VPN4034	CUSHION (R)	1	
312(4)		VPN4035	CUSHION (L)	1	
315(4)		VPG7801	PACKING	1	[SUPPLIED FROM MBV]
			SERVICE FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE(PAL)	1	
		VFK0335	RETAINING RING REMOVER	1	
			(3mm/4mm)		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	
		VFK0680	WHITE GREASE	1	
		VFK0851	CENTRE FIXING TOOL	1	
		VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	
		VFK0939	13P EXTENSION CABLE	1	
		VFK0678	18P EXTENSION CABLE	1	
		VFK0917	11P EXTENSION CABLE	1	
		VFK0918	17P EXTENSION CABLE	1	

④ PACKING PARTS SECTION



❺ REMOTE CONTROLLER UNIT



Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
400(5)		VYK6368	TOP COVER UNIT	1	[SUPPLIED FROM MBV]
401(5)		VYK5446	BOTTOM COVER UNIT	1	
402(5)		VYK6367	DOOR PANEL UNIT	1	[SUPPLIED FROM MBV]
403(5)		VKF2115	BATTERY COVER	1	
404(5)		VKW1802	IR WINDOW	1	
405(5)		VSQ0830	CONDUCTIVE RUBBER	2	
406(5)		VSP0861	RUBBER CONTACT	1	[SUPPLIED FROM MBV]
407(5)		VSQ0829	LCD SPACER	1	
408(5)		VSL0319A	LCD	1	
409(5)		----------	REMOTE CONTROLLER C.B.A.	1	THE C.B.A. IS NOT
					SUPPLIED AS SPARE
					PART.
B401(5)		XTB2+6G	SCREW	3	
B402(5)		XTB2+8GFZ	SCREW	1	

5-2. ELECTRICAL REPLACEMENT PARTS LIST

Note:
1. Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3. Unless otherwise specified, All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4. The P.C.Board units marked width'■'show below the main assembled parts.
5. The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP06976B	MAIN C.B.A.	1	[SUPPLIED FROM MBV]
			(Page:5-8)		<!>(RTL)
					INCLUDING THE
					LUMINANCE &
					CHROMINANCE PACK
					C.B.A.(VEP03B46C),
					Hi-Fi AUDIO PACK
					C.B.A.(VEP04447PK),
					OSD PACK C.B.A.
					(VEP06993A),
					DECORDER PACK C.B.A.
					(VEP07784A)
					VIF C.B.A.
					(VEP07801B).
		VEP03B46C	LUMINANCE & CHROMINANCE	1	[SUPPLIED FROM MBV]
			PACK C.B.A.		(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP06976B).
		VEP04447PK	Hi-Fi AUDIO PACK C.B.A.	1	[SUPPLIED FROM MBV]
					(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP06976B).
		VEP06993A	OSD PACK C.B.A.	1	[SUPPLIED FROM MBV]
					(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP06976B).
		VEP07784A	DECORDER PACK C.B.A.	1	[SUPPLIED FROM MBV]
					(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP06976B).
		VEP07801B	TV DEMODULATOR PACK C.B.A.	1	[SUPPLIED FROM MBV]
					(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP06976B).
		VEP03B23B	INPUT/OUTPUT PACK C.B.A.	1	[SUPPLIED FROM MBV]
			(Page5-15)		(RTL)
		VEP04469F	MOTOR-DRIVE C.B.A.	1	[SUPPLIED FROM MBV]
			(Page5-15)		(RTL)
		VEP05204A	HEAD AMP C.B.A.	1	[SUPPLIED FROM MBV]
			(Page:5-16)		(RTL)
		VEP07817A	TIMER C.B.A.	1	[SUPPLIED FROM MBV]
			(Page:5-17)		(RTL)
		VEP00U88A	MAIN INTERFACE C.B.A.	1	(RTL)
			(Page:5-18)		
		VEP00U71A	S-TAB C.B.A.	1	(RTL)
			(Page:5-18)		
		VEX0129	CYLINDER DRIVE C.B.A.	1	(RTL)
			(Page:5-18)		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		----------	MOTOR C.B.A.	1	C.B.A. IS INCLUDED
			(Page:5-18)		IN LOADING MOTOR (1)
					UNIT(VEM0427).
		ENG47210G	TUNER	1	[SUPPLIED FROM MAV]
					<!>
F1101		XBA2C16TH15	FUSE	1	<!>
	■	VEP06976B	MAIN C.B.A.		[SUPPLIED FROM MBV]
					<!>(RTL)
C301		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C302		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C303,04		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C305,06		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C308		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C309		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C310		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C311		ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C312		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C313		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C314		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C315		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C316		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C317		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C318		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C319		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C320		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C321		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C322		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C323		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C325		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C326		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C327		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C328		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C329		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C330		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C331		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C332		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C333		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C334		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C336		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C337		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C338,39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C340		ECUX1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C341		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C342		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C360		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C361		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C362		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C363		ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
C364		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C365		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C381		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C382,83		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C0701,02		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C0704		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C0706		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C0707,08		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C0709		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C0710		ECUM1H470JPV	C.CAPACITOR CH 50V 47P	1	
C0711		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0712		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0714		ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C0715		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.1U	1	
C0716		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0717		ECUM1H270JPV	C.CAPACITOR CH 50V 27P	1	
C0718		ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C0719		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C0720		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C0723		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C0726		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0730		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0732		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C801-04		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C806		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C808		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C813		ECUX1H181JCV	C.CAPACITOR CH 50V 180P	1	
C814		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C815		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C839		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C840		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C841		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C842		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C843		ECUX1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C844		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C845		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C846		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C847		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C848		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C849		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C850		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C851		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C853		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C854		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C856		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C857		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C858		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C859		ECEA1HKAR33	E.CAPACITOR 50V 0.33	1	
C860		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C861		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C862		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C868,69		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C893		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C1004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1005		ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C1006		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1007		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1008		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1009		ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C1010		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1011		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1012		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1013		ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C1101		ECKMWS102MEH	C.CAPACITOR	1	<!>
C1104		ECKMWS102MEH	C.CAPACITOR	1	<!>
C1106		ECQE6104KF	P.CAPACITOR	1	
C1107		ECKMWS102MEH	C.CAPACITOR	1	<!>
C1110,11		ECQU2A104MN	P.CAPACITOR	2	<!>
C1112		ECEC2GG330	E.CAPACITOR 400V 33U	1	
C1113		ECKD2H103PU	C.CAPACITOR 500V 0.01U	1	
C1114		ECCD3A470KGE	C.CAPACITOR 1KV 47P	1	
C1115		ECA1VXLV470	E.CAPACITOR 35V 47U	1	
C1116		ECEA1HGE470	E.CAPACITOR 50V 47U	1	
C1117		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C1118		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C1120		ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C1121		ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
C1131		EEUFA1E681	E.CAPACITOR 25V 680	1	
C1132		ECEA1DFZ331	E.CAPACITOR 330U	1	
C1133		ECKD2H101KB5	C.CAPACITOR 500V 100P	1	
C1134		ECEA1AFZ681	E.CAPACITOR 10V 680U	1	
C1135		ECEA1AFZ331	E.CAPACITOR 10V 330U	1	
C1136		ECKD2H101KB5	C.CAPACITOR 500V 100P	1	
C1137		ECEA1JFE470	E.CAPACITOR 63V 47U	1	
C1138		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1139		ECKD2H101KB5	C.CAPACITOR 500V 100P	1	
C1140		ECEA1VFE820	E.CAPACITOR 35V 82U	1	
C1141		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1142		ECKD2H101KB5	C.CAPACITOR 500V 100P	1	
C1143		ECEA1AFZ331	E.CAPACITOR 10V 330U	1	
C1144,45		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C1147		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1148		ECQV1H124JM	P.CAPACITOR 50V 0.12U	1	[SUPPLIED FROM MBV]
C1149		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1150		ECA1CM101	E.CAPACITOR 16V 100U	1	
C1151		ECEA1CGE221	E.CAPACITOR 16V 220U	1	
C1153		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C2013		ECQV1H334JM	P.CAPACITOR 50V 0.33U	1	
C2022		ECEA1EKS330	E.CAPACITOR 25V 33U	1	
C2023		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2024		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2025,26		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	2	
C2029,30		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C2031		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2032		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2033		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2034		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2035		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C2037		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2038		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2039		ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C2040		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2047		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2049-51		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	3	
C2052		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2053-55		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	3	
C3001		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3002,03		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3004		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3005		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3006		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3007		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3008		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3009		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3010		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	1	
C3015		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3016		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3017,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3019		ECUM1H620JCN	E.CAPACITOR CH 50V 62P	1	
C3021		ECA0JM471	E.CAPACITOR 6.3V 470U	1	
C3022		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3027		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3028		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3029		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3031		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3032		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3033		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3042,43		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3045		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4005		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4008		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4010		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4017		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4044		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4045		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	1	
C4503		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4504		ECEA1CU470	E.CAPACITOR 16V 47P	1	
C4505		ECA1VM470	E.CAPACITOR 35V 47P	1	
C4506		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4507		ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4508		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C4509		ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4510		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4511		ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C4512		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4513		ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4514		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4515		ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4517		ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4518		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4521		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4522		ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4524		ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4528		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4530		ECEA0JU470	E.CAPACITOR 6.3V 47U	1	
C4533		ECEA1AU330	E.CAPACITOR 10V 33U	1	
C4537		ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4538		ECEA1HUR47	E.CAPACITOR 50V 0.47U	1	
C4539		ECUM1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
C4541		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4545		ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4551		ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4556		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4558		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C4559		ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4560		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4561		ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C4562		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4563		ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4564		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4565		ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4567		ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4568		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4572		ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4576		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4583		ECEA1AU330	E.CAPACITOR 10V 33U	1	
C4585,86		ECEA1AU101	E.CAPACITOR 10V 100U	2	
C4591		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4592		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4593		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4594,95		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C4596		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4597		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4604		ECUM1H182JN	C.CAPACITOR CH 50V 1800P	1	
C4606		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4616		ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4617		ECEA10M22	E.CAPACITOR 10V 22U	1	
C4618		ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4621		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4629		ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4636		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4638		ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4652,53		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	2	
C6001		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6003		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6006		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C6007,08		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	2	
C6010		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6011		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C6013		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	1	
C6015,16		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6029		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C7302		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C7304		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C7308		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C7309		ECUM1H152KBN	C.CAPACITOR CH 50V 1500P	1	
C7310		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7311		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C7312		ECQB1H103JZ	P.CAPACITOR 50V 0.01U	1	
C7313		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C7314,15		ECQB1H103JZ	P.CAPACITOR 50V 0.01U	2	
C7320,21		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C7323-25		ECUX1H153KBM	C.CAPACITOR CH 50V 0.015U	3	
C7326		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7328		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7330		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7332,33		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C7337		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7339		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7340		ECUM1H390JPN	C.CAPACITOR CH 50V 39P	1	
C7341		ECUX1H070DCV	C.CAPACITOR CH 50V 7P	1	
C7345		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7346		ECUM1H390JPN	C.CAPACITOR CH 50V 39P	1	
C7347		ECUX1H070DCV	C.CAPACITOR CH 50V 7P	1	
C7349,50		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C7352		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7353		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7601,02		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7603		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C7604		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7605		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7606		ECEA1CKA101	E.CAPACITOR 16V 100U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C7607		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7609		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7610,11		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7612		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7614		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7615		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C7701		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7702		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C7703		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C7704,05		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7706		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C7707-10		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	4	
C7712		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7714		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7720		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7722		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7727		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7729		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7731		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7732		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C7734		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7738		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7740,41		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C7742		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7745		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C7746,47		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7748		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C7749		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C7750		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C7751		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7753		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7756		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7758		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7761		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7762		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7763,64		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7765		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7766,67		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7768		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7769		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7771		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7773		ECUX1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C7775		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7777		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
D381		MA141K	DIODE	1	
D382		MA143	DIODE	1	
D383		MA141K	DIODE	1	
D1004		MA4051-L	DIODE	1	
D1005		1SS355	DIODE	1	
D1006		MA4051-L	DIODE	1	
D1007		1SS355	DIODE	1	
D1102		ERA15-08	DIODE	1	<!>
D1103		AP01C	DIODE	1	
D1104		MA178	DIODE	1	
D1105-07		ERA15-08	DIODE	3	<!>
D1108		RD100E	DIODE	1	[SUPPLIED FROM MBV]
D1109,10		ERA15-08	DIODE	2	
D1111		MA4120-M	DIODE	1	
D1121		RL2Z	DIODE	1	
D1122		21DQ04	DIODE	1	
D1123		ERA22-02	DIODE	1	
D1124		MA185	DIODE	1	
D1125		11EQS04	DIODE	1	
D1126		MA4047M	DIODE	1	
D1127		1SS355	DIODE	1	
D1129		MA4043-L	DIODE	1	[SUPPLIED FROM MBV]
D1130		1SS254	DIODE	1	
D1132		1SS355	DIODE	1	
D2003-05		1SS254	DIODE	3	
D2007		MA151WA	DIODE	1	
D3001		1SS254	DIODE	1	
D3010		MA151K	DIODE	1	
D3011		1SS355	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D4003		1SS355	DIODE	1	
D4005		1SS254	DIODE	1	
D4502-04		MA141K	DIODE	3	
D6001		LN59L.VT	LED	1	
D6002,03		1SS254	DIODE	2	
D6007		MA4075-L	DIODE	1	
D7304		MA29T-B	DIODE	1	
D7305		1SS254	DIODE	1	
D7307		MA151K	DIODE	1	
D7601		MA4300M	DIODE	1	
D7605		1SS254	DIODE	1	
D7701		MA151WA	DIODE	1	
D7704		1SS254	DIODE	1	
DL802		EFDBR124A53T	DELAY	1	
DL7701		VLD0275	DELAY	1	[SUPPLIED FROM MBV]
F1101		XBA2C16TH15	FUSE	1	<!>
IC301		MSM7403MS	IC	1	
IC302		TDA9715H/A	IC	1	[SUPPLIED FROM MBV]
IC0701		LA7576	IC	1	
IC1001		HA17431PA	IC	1	
IC1101		TDA4605-3	IC	1	[SUPPLIED FROM MBV]
					<!>
IC2001		XRA6887-V3	IC	1	
IC2004		LM358PS	IC	1	
IC4501		XLH7773AKS	IC	1	
IC4601		BA7755AF	IC	1	
IC6001		MN67434VRTA	IC	1	[SUPPLIED FROM MBV]
IC6002,03		ON1387	IC	2	
IC7301		TDA9845	IC	1	[SUPPLIED FROM MBV]
IC7302		TA8721SN	IC	1	
IC7701		M27C512MBAA	IC	1	[SUPPLIED FROM MBV]
IC7702		MC74HCT573AW	IC	1	[SUPPLIED FROM MBV]
IC7703		M52055FP	IC	1	
IC7704		ST24C08C	IC	1	[SUPPLIED FROM MBV]
IC7705		TDA8501	IC	1	[SUPPLIED FROM MBV]
IC7706		P80C528FBP	IC	1	[SUPPLIED FROM MBV]
IC7707		MC74HC164D	IC	1	[SUPPLIED FROM MBV]
IC7708		SAA5281PM3	IC	1	[SUPPLIED FROM MBV]
IC7709		MC74HC161AD	IC	1	[SUPPLIED FROM MBV]
K4		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K7		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K301		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K303		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K0702		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K0704		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K0705		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K801		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K802		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K805		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K806		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K807		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K851		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K2001		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4002		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4004		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4023		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7302		ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	
K7316		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7601		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7604		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7701		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7705		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7709		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7714		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L301		ELESE330KA	COIL 33UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L302,03		ELESE390KA	COIL 39UH	2	
L304		ELESE101KA	COIL 100UH	1	
L306		ELESE121KA	COIL 120UH	1	
L307		ELESE101KA	COIL 100UH	1	
L308		VLQEL05S390J	COIL 39UH	1	
L0701,02		ELJNAR10MF	COIL 0.1H	2	
L0705		VLQ0163J5R6	COIL 5.6UH	1	
L0706		VLQEL05S120J	COIL 12UH	1	
L802		ELESE101KA	COIL 100UH	1	
L803		ELESE270KA	COIL 27UH	1	
L805		VLQEL05S150K	COIL 15UH	1	
L808		ELESE6R8JA	COIL 6.8UH	1	
L809-11		ELESE101KA	COIL 100UH	3	
L812		VLP0125	INDUCTOR	1	
L1107,08		ELF18D290A2	COIL	2	<!>
L1109		VLP0074	INDUCTOR	1	
L1110		VLP0085	INDUCTOR	1	
L1112		VLP0125	INDUCTOR	1	
L1121		VLQ0611K220	COIL 22UH	1	
L1122		ELELN220KA	COIL 22UH	1	
L1123,24		ELESE101KA	COIL 100UH	2	
L3001		VLQ0599J3R3	COIL 3.3UH	1	
L3002		VLQ0599J680	COIL 68UH	1	
L3003		VLQ0599J6R8	COIL 6.8UH	1	
L3004		VLQ0599J120	COIL 120UH	1	
L3006		VLQ0599J101	COIL 100UH	1	
L3007		VLQ0599J680	COIL 68UH	1	
L3008		VLQ0599J270	COIL 27UH	1	
L3009		VLQ0599J680	COIL 68UH	1	
L3011		VLP0074	INDUCTOR	1	
L4501,02		ELESE101KA	COIL 100UH	2	
L4601		VLQEL07F153J	COIL	1	
L7601,02		VLQ0599J1R0	COIL 1UH	2	
L7603-05		VLQ0599J680	COIL 68UH	3	
L7607,08		VLQ0599J680	COIL 68UH	2	
L7701		ELESE100KA	COIL 10UH	1	
L7702		ELESE3R3KA	COIL 3.3UH	1	
L7704		ELESE100KA	COIL 10UH	1	
L7705,06		ELESE101KA	COIL 100UH	2	
L7708		ELESE270KA	COIL 27UH	1	
P1101		VJS3306	AC INLET	1	<!>
P2001		VJS3316A002	CONNECTOR (FEMALE) 2P	1	
P3002		VJS3537A020G	CONNECTOR (FEMALE) 20P	1	
P6001		VJS3537A032G	CONNECTOR (FEMALE) 32P	1	
P6004		VJS3317A004	CONNECTOR (FEMALE) 4P	1	
PK0701		VJR0816E010W	CONNECTOR 10P	1	
PK4001-03		VJR0757B018T	CONNECTOR 18P	3	
PK7301		VJR0777B007W	CONNECTOR 7P	1	
PK7302		VJR0777B005W	CONNECTOR 5P	1	
PP0701		VJP3589E004B	CONNECTOR (MALE) 4P	1	
PP2001		VJP3042A017W	CONNECTOR (MALE) 17P	1	
PP2002		VJP3042A011W	CONNECTOR (MALE) 11P	1	
PP3001		VJP3044G008W	CONNECTOR (MALE) 8P	1	
PP3002		VJP3044G013W	CONNECTOR (MALE) 13P	1	[SUPPLIED FROM MBV]
PP3003		VJP3044G006W	CONNECTOR (MALE) 6P	1	
PP3901		VJP3042A013W	CONNECTOR (MALE) 13P	1	
PP3902		VJP3042A018W	CONNECTOR (MALE) 18P	1	
PP6005		VJP3042A003W	CONNECTOR (MALE) 3P	1	
PP7701		VJP3043A010W	CONNECTOR (MALE) 10P	1	
PP7702		VJP3043A009W	CONNECTOR (MALE) 9P	1	
PS301		VJS3044F008W	CONNECTOR (FEMALE) 8P	1	[SUPPLIED FROM MBV]
PS302		VJS3044F013W	CONNECTOR (FEMALE) 13P	1	[SUPPLIED FROM MBV]
PS303		VJS3044F006W	CONNECTOR (FEMALE) 6P	1	
PS7701		VJS3043B009W	CONNECTOR (FEMALE) 9P	1	
PS7702		VJS3043B010W	CONNECTOR (FEMALE) 10P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q301		2SC3930	TRANSISTOR	1	
Q360		2SD1819A	TRANSISTOR	1	
Q361		2SB1218A	TRANSISTOR	1	
Q362		2SB1218A-R	TRANSISTOR	1	
Q0701		MSD601-S	TRANSISTOR	1	
Q0702		MSB709-R	TRANSISTOR	1	
Q804		2SC3930	TRANSISTOR	1	
Q1001		2SD601A	TRANSISTOR	1	
Q1002-04		2SD1996-S	TRANSISTOR	3	
Q1005		2SD602A	TRANSISTOR	1	
Q1006		MSD602	TRANSISTOR	1	
Q1101		STP3N60FI-M	TRANSISTOR	1	[SUPPLIED FROM MBV]
					<!>
Q1102		2SD601A	TRANSISTOR	1	
Q1104		2SB1321A	TRANSISTOR	1	
Q1105		2SD601A	TRANSISTOR	1	
Q1106		2SD25440PQA	TRANSISTOR	1	
Q1107		MOC8104FR2V	TRANSISTOR	1	[SUPPLIED FROM MBV]
					<!>
Q1111		MOC8104FR2V	TRANSISTOR	1	[SUPPLIED FROM MBV]
					<!>
Q3001		XN4501	TRANSISTOR-RESISTOR	1	
Q3002		MSB710	TRANSISTOR	1	
Q3003		2SB709A	TRANSISTOR	1	
Q3004		MSD601	TRANSISTOR	1	
Q3005		MSC2295	TRANSISTOR	1	
Q3006		MSB709	TRANSISTOR	1	
Q3007		MSC2295	TRANSISTOR	1	
Q3010		MSB709-R	TRANSISTOR	1	
Q4002		2SD601A	TRANSISTOR	1	
Q4501		2SD1991A-R	TRANSISTOR	1	
Q4551		2SB1320A-R	TRANSISTOR	1	
Q4552		2SD1819A	TRANSISTOR	1	
Q6001		MSB709	TRANSISTOR	1	
Q6002		PN205L-NC.VT	PHOTO TRANSISTOR	1	
Q7301		MSD601-S	TRANSISTOR	1	
Q7601		2SB709A-R	TRANSISTOR	1	
Q7703,04		MSB709	TRANSISTOR	2	
Q7705		MSD601	TRANSISTOR	1	
Q7711		MSD601	TRANSISTOR	1	
Q7717		MSD601	TRANSISTOR	1	
Q7720		MSD601	TRANSISTOR	1	
Q7722		MSD601	TRANSISTOR	1	
Q7723		MSB709	TRANSISTOR	1	
QR360		UN511E	TRANSISTOR-RESISTOR	1	
QR361		UN5213	TRANSISTOR-RESISTOR	1	
QR806		UN5113	TRANSISTOR-RESISTOR	1	
QR807		UN5213	TRANSISTOR-RESISTOR	1	
QR1001,02		MUN2113	TRANSISTOR-RESISTOR	2	
QR1101		UN2114	TRANSISTOR-RESISTOR	1	
QR1102,03		MUN2213	TRANSISTOR-RESISTOR	2	
QR1104		MUN2212	TRANSISTOR-RESISTOR	1	
QR1105,06		MUN2213	TRANSISTOR-RESISTOR	2	
QR2002		UN2114	TRANSISTOR-RESISTOR	1	
QR2003		FMG8	TRANSISTOR-RESISTOR	1	
QR2006,07		IMD8	TRANSISTOR-RESISTOR	2	[SUPPLIED FROM MBV]
QR2008,09		MUN2213	TRANSISTOR-RESISTOR	2	
QR2014		MUN2213	TRANSISTOR-RESISTOR	1	
QR3001		MUN2111	TRANSISTOR-RESISTOR	1	
QR3002,03		DTC363EK	TRANSISTOR-RESISTOR	2	
QR3005		MUN2213	TRANSISTOR-RESISTOR	1	
QR3007		MUN2211	TRANSISTOR-RESISTOR	1	
QR3008		MUN2213	TRANSISTOR-RESISTOR	1	
QR4002,03		MUN2213	TRANSISTOR-RESISTOR	2	
QR6001		XN1211	TRANSISTOR-RESISTOR	1	
QR6003		MUN2211	TRANSISTOR-RESISTOR	1	
QR7304		MUN2213	TRANSISTOR-RESISTOR	1	
QR7601		MUN2213	TRANSISTOR-RESISTOR	1	
QR7707		UN2216	TRANSISTOR-RESISTOR	1	
QR7710		UN2216	TRANSISTOR-RESISTOR	1	
QR7716		UN2215	TRANSISTOR-RESISTOR	1	
QR7719		MUN2113	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R305,06		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R307		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R308,09		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R310		ERJ6GEYK125	M.RESISTOR CH 1/10W 1.2M	1	
R311		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R319		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R320		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R321		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R322		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R325		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R328		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R329		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R331,32		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R333		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R334,35		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	2	
R337		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R338		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R360		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R361		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R362,63		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R364,65		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	2	
R367		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R369		ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R371		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R372		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R373		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R383		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R392		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R393		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R394		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R0702		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R0704		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0705		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0706,07		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R0708		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R0709		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R0710		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R0713		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R0714		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R0715		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R0716		VRE0040E151	M.RESISTOR CH 1/10W 150	1	
R0717		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0718		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R0719		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R0720		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R0722		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0728		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R0729		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R0732		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R0783		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R801		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R802		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R804		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R805		ERJ3GEYJ163	M.RESISTOR CH 1/16W 16K	1	
R809		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R811		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R826		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R827		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R835		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R836		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R837		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R838		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R839		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R840		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R841		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R843		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R853		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R855		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R856		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1001		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R1002		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R1003		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R1004		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R1005		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1006		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R1007		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R1008		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R1009,10		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R1102,03		ERDS1TJ183	C.RESISTOR 1/2W 18K	2	[SUPPLIED FROM MBV]
R1104		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R1107		ERJ6GMYJ164	M.RESISTOR CH 1/10W 160K	1	
R1108		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R1109		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R1110		ERJ6GMYJ362	M.RESISTOR CH 1/10W 3.6K	1	
R1111		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R1112		ERJ8GEYJ304	M.RESISTOR CH 1/8W 300K	1	[SUPPLIED FROM MBV]
R1113		ERJ8GEYJ434	M.RESISTOR CH 1/8W 430K	1	[SUPPLIED FROM MBV]
R1114		ERX12SJR51	M.RESISTOR 1/2W 0.51	1	[SUPPLIED FROM MBV]
R1115		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R1116		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R1117		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R1118		ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
R1119		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R1120		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R1122		ERC12AGM334	S.RESISTOR 1/2W 330K	1	<!>
R1125		ERJ6GMYJ220	M.RESISTOR CH 1/10W 22	1	
R1126		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R1127		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R1128		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R1129		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R1130		ERDS1TJ472	C.RESISTOR 1/2W 4.7K	1	
R1134		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R1135		ERJ8GEYJ274	M.RESISTOR CH 1/8W 270K	1	
R1136		ERJ8GEYJ394	M.RESISTOR CH 1/8W 390K	1	[SUPPLIED FROM MBV]
R2001		ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R2002		ERJ6GMYG913	M.RESISTOR CH 1/10W 91K	1	
R2003		ERDS2FJ7R5	C.RESISTOR 1/4W 7.5	1	
R2004		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R2005,06		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R2007		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2011		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2013-15		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	3	
R2017,18		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	2	
R2019		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R2020		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2025		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R2027,28		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R2029,30		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R2035		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2037		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2038		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2039		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2040		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2041		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R2042,43		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2044		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2045		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R2046		ERJ6GMYG124	M.RESISTOR CH 1/10W 120K	1	
R2047		ERJ6GMYJ154	M.RESISTOR CH 1/10W 150K	1	
R2048		ERJ6GMYG114	M.RESISTOR CH 1/10W 110K	1	
R2049		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R2050		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R2051		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2052		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2053,54		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R2059		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2060,61		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R2062		ERDS2FJ7R5	C.RESISTOR 1/4W 7.5	1	
R2063,64		ERDS2FJ6R8	C.RESISTOR 1/4W 6.8	2	
R2065		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2066		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3001,02		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R3003		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3004		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3005		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3006		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3007		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3008,09		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	2	
R3011		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3012		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3013		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R3014		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R3018		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3019,20		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	2	
R3021		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3022		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3023,24		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	2	
R3025		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3026		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3028		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R3030		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3033		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3034		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3035		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3036		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3037		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3038,39		ERDS2TJ102	C.RESISTOR 1/4W 1K	2	
R3041		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R3042		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R3044		ERDS2TJ151	C.RESISTOR 1/4W 150	1	
R4006		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R4008		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R4014		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4018		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R4043		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R4046		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4055		ERG2SJ821	M.RESISTOR 2W 820	1	
R4058		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4059,60		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	2	
R4061		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4062		ERG2SJ101	M.RESISTOR 2W 100	1	
R4063		ERDS2TJ221	C.RESISTOR 2W 220	1	
R4501,02		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4503		ERJ3GEYG223	M.RESISTOR CH 1/16W 22K	1	
R4504,05		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4506,07		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4508		ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4509		VRE0071E622	M.RESISTOR CH 1/10W 6.2K	1	
R4511		ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4512		VRE0071E153	M.RESISTOR CH 1/10W 15K	1	
R4513		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R4518,19		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4522		ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R4527		VRE0071E333	M.RESISTOR CH 1/10W 33K	1	
R4528		VRE0071E153	M.RESISTOR CH 1/10W 15K	1	
R4529		ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4535		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4539		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4541		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4542		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4543		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4551,52		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4553,54		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4558		ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4561		ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4562		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R4563		ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	1	
R4568,69		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4572		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4573		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4577		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4578		VRE0071E473	M.RESISTOR CH 1/10W 47K	1	
R4581		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4583		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4584		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4585,86		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4587,88		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4591		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4592		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4593		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4594		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4596		ERJ3GEYG473	M.RESISTOR CH 1/16W 47K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4597		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4598,99		ERJ3GEYG104	M.RESISTOR CH 1/16W 100K	2	
R4603		ERJ3GEYG183	M.RESISTOR CH 1/16W 18K	1	
R4606		VRE0071E562	M.RESISTOR CH 1/10W 5.6K	1	
R4610		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4611		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4612		VRE0071E331	M.RESISTOR CH 1/10W 330	1	
R4613		ERJ3GEYG394	M.RESISTOR CH 1/16W 390K	1	
R4615		VRE0071E133	M.RESISTOR CH 1/10W 13K	1	
R4616		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4649		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4653		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4656		ERJ3GEYG243	M.RESISTOR CH 1/16W 24K	1	
R4657		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4666		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4670		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R4671		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6001		ERJ6GMYJ201	M.RESISTOR CH 1/10W 200	1	
R6002		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6003		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6004		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6005-07		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	3	
R6008		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6009-11		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6013		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6014,15		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R6016		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6017		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R6018		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6020		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6022		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6023		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6024-29		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	6	
R6030		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6031		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6032,33		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R6034,35		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6037		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6039,40		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6041		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R6042		ERDS2TJ221	C.RESISTOR 2W 220	1	
R7302		ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R7303		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7304		ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7305		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R7307		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R7311		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7313		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R7320		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7323		ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R7324,25		ERJ3GEYG471	M.RESISTOR CH 1/16W 470	2	
R7326		ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R7327		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7328		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7329		ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R7330		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7336		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R7337		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R7345		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R7352,53		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R7354,55		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R7358,59		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R7362,63		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R7601		ERJ6GMYJ151	M.RESISTOR CH 1/10W 150	1	
R7602,03		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R7604		ERJ6GMYJ151	M.RESISTOR CH 1/10W 150	1	
R7605-07		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R7608		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7609		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7610		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7611		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R7612		ERG1SJ681	M.RESISTOR 1W 680	1	
R7614		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R7615		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7701		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7705		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7707		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7708		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R7709		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7711		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R7712,13		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
R7723		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7725		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7727		ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1	
R7729		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7730		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R7734		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7736		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7737,38		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R7741		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7742		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R7743		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7745		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7748		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7750		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R7751		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R7753		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7754		ERJ6GEYJ203	M.RESISTOR CH 1/10W 20K	1	
R7755		ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R7756		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7757		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R7758		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R7761		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R7765		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R7768		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R7770		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7772		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7774		EXBF9E103J	REISITOR-RESISTOR	1	
R7779		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R7781-83		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R7784,85		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R7787-89		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	3	
R7790		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R7791		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7794		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7795		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7796		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R7797		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R7798		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R7799		ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
T0703		EQV5EC071A	TRANSFORMER	1	
T0704		EQV5EC072A	TRANSFORMER	1	
T1101		VLT0740	TRANSFORMER	1	[SUPPLIED FROM MBV]
					<!>
T7301		EQR7QG028P	TRANSFORMER	1	[SUPPLIED FROM MBV]
T7304		EIS5EC017A	TRANSFORMER	1	
T7305		EQS5EC033A	TRANSFORMER	1	
VR301		EVMEASA00B13	V.RESISTOR	1	
VR302		EVMEASA00B14	V.RESISTOR	1	
VR303,04		EVMEASA00B53	V.RESISTOR	2	
VR305,06		EVMEASA00B14	V.RESISTOR	2	
VR0701		EVNCBAA00B24	V.RESISTOR	1	
VR2001		EVNCYAA03B54	V.RESISTOR	1	
VR3001,02		EVNCYAA03B23	V.RESISTOR	2	
VR3012,13		EVNCYAA03B52	V.RESISTOR	2	
VR4501		EVMECSA00B53	V.RESISTOR	1	
VR4502		EVMEASA00BY4	V.RESISTOR	1	
VR4507		EVMEASA00BY4	V.RESISTOR	1	
VR4509		EVMECSA00BY3	V.RESISTOR	1	
VR4550		EVMECSA00B14	V.RESISTOR	1	
VR7301,02		EVNCBAA00B53	V.RESISTOR	2	
X0701		VLF1178	CRYSTAL OSCILLATOR	1	[SUPPLIED FROM MBV]
X0703		EFCS5R5MW5	CRYSTAL OSCILLATOR	1	
X0704		VLF1035	CRYSTAL OSCILLATOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
X801		VSX0162	CRYSTAL OSCILLATOR	1	
X6001		VSX0609	CRYSTAL OSCILLATOR	1	
X7301		EFCT5R5MS5	CRYSTAL OSCILLATOR	1	
X7304		EFCT5R74MS5B	CRYSTAL OSCILLATOR	1	
X7305		VSX0648	CRYSTAL OSCILLATOR	1	[SUPPLIED FROM MBV]
X7701		VSX0583	CRYSTAL OSCILLATOR	1	
X7702		VSX0353	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		EYF52BC	FUSE HOLDER	2	<!>
		VMD2029	REEL GUIDE	1	
		VMZ2212	CAPACITOR COVER	3	<!>
		VSC4141	SWITCH SHIELD COVER	1	
		ENG47210G	TUNER	1	[SUPPLIED FROM MBV]
					<!>
		VMX2402	WASHER	1	[SUPPLIED FROM MBV]
		VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODU. C.B.A.
		VMD1926	SENSOR LED HOLDER	1	FOR D6001
		VMD1927	PHOTO TRANSISTOR HOLDER	1	FOR Q6002
	■	VEP03B23B	INPUT/OUTPUT PACK C.B.A.		[SUPPLIED FROM MBV]
					(RTL)
C3901		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3902		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3903		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3904		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3905,06		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C3909		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3910		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3913		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3914		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C3915		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4903-12		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	10	
D3901		MA4056M	DIODE	1	
D3902		1SS254	DIODE	1	
D3903		MA151K	DIODE	1	
D3907		MA4056M	DIODE	1	
IC3901		MC14053BF	IC	1	
IC3902		MC14052BF	IC	1	
IC3903		MC14051BF	IC	1	
IC3904		BU12101-02	IC	1	[SUPPLIED FROM MBV]
IC4901		MC14052BF	IC	1	
IC4902,03		NJM4558M	C	2	
IC4904		MC14052BF	IC	1	
JK3901,02		VJS1470	21PIN SKIRT JACK	2	
JK3903		VEJ1486	I/O JACK PLATE	1	[SUPPLIED FROM MBV]
K3901		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
K4901		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
L3901		VLQ0188J101	COIL 100UH	1	
L3902		VLQ0599J101	COIL 100UH	1	
L4905,06		VLQ0599J471	COIL 470UH	2	
PS3901		VJS3042B013W	CONNECTOR (FEMALE) 13P	1	
PS3902		VJS3042B018W	CONNECTOR (FEMALE) 18P	1	
Q3901		MSD601	TRANSISTOR	1	
Q3902		MSB709	TRANSISTOR	1	
Q3903		MSD601	TRANSISTOR	1	
Q3904		MSB709	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR3901		MUN2212	TRANSISTOR-RESISTOR	1	
QR3902		UN2216	TRANSISTOR-RESISTOR	1	
QR3903		MUN2111	TRANSISTOR-RESISTOR	1	
QR3904		UN4113	TRANSISTOR-RESISTOR	1	
R3901,02		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	2	
R3903		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R3904		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3905		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3906		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	1	
R3907		ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1	
R3908		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3909		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R3910		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3911		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	1	
R3912		ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1	
R3913		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3916		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3917		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R3918		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3921		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3922		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3923,24		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R3925,26		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	2	
R3927		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R3928		ERDS2TJ223	C.RESISTOR 1/4W 22K	1	
R4901		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4902		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R4903,04		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	2	
R4905		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4906		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4907		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4908		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4909		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R4910		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4911		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R4912		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4913,14		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R4920		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R4921		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4924		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R4926		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R4928		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R4931		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4933		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4935		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4937,38		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
SW3901		ESD172311	SWITCH	1	
			MISCELLANOUS		
		XTV3+8FZ	SCREW	4	FOR 21PIN SKIRT JAC
	■	VEP04469F	MOTOR DRIVE C.B.A.		[SUPPLIED FROM MBV]
					(RTL)
C2501,02		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C2503		ECA1EM470	E.CAPACITOR 25V 47U	1	
C2504		ECEA1HKNR22	E.CAPACITOR 50V 0.22	1	
C2505		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2506		ECA1EM470	E.CAPACITOR 25V 47U	1	
C2507,08		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	2	
C2509		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2510		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2511		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	1	
C2512		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2513		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2514-16		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2517		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C2518		ECUX1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C2519		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C2520		ECUX1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C2521		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2523		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C2525		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2540		ECEA1HKAR47	E.CAPACITOR 50V 0.47	1	
C2541		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4712		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4713		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C4714		ECQP1332JZ	P.CAPACITOR 100V 3300P	1	
C4715		ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4716		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C4732		ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
C4744		ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
D2501,02		MA185	DIODE	2	
D2504,05		MA700	DIODE	2	
D2506		1SS355	DIODE	1	
D4702		MA151K	DIODE	1	
IC2501		BA6871S	IC	1	
K4708		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K4710		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L2502		VLP0074	INDUCTOR	1	
L4702		ELESE471KA	COIL	1	
L4705,06		VLP0150	INDUCTOR	2	
P2003		VJP3502	CONNECTOR (MALE)	1	
P2501		VJS3537A015G	CONNECTOR (FEMALE) 15P	1	
P2502		VJP1232T	CONNECTOR (MALE) 5P	1	
P4002		VJS2329	CONNECTOR (FEMALE)	1	
P4003		VJP1230T	CONNECTOR (MALE) 3P	1	
PS2501		VJS3042B017W	CONNECTOR (FEMALE) 17P	1	
PS4701		VJS3042B011W	CONNECTOR (FEMALE) 11P	1	
Q4701		2SD602A-R	TRANSISTOR	1	
Q4703		2SB1320A-R	TRANSISTOR	1	
QR4703		MUN2214	TRANSISTOR-RESISTOR	1	
R2501		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2502		ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R2503,04		ERDS2TJ560	C.RESISTOR 1/4W 56	2	
R2505		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2506		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2507		ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2508		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2509		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2510		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2511		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2512		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2513,14		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R2515		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2516		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2517		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2518		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2519		ERDS2TJ560	C.RESISTOR 1/4W 56	1	
R2520		ERX12SJR47	C.RESISTOR 1/2W 0.47	1	
R2521,22		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R2529		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R2530		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2531		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2532		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R2533		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2534		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4710		ERJ6GMYJ432	M.RESISTOR CH 1/10W 4.3K	1	
R4715		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4723		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4735		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
T4701		EIQ7QF014Q	TRANSFOMMER	1	
VR2006		EVNDCAA03B15	V.RESISTOR	1	
VR2011		EVNDCAA03B15	V.RESISTOR	1	
VR4001		EVNDCAA03B15	V.RESISTOR	1	
			MISCELLANEOUS		
		VEE9091	WIRE CABLE	1	(P2003-POWER TR.)
		VEE9112	WIRE CABLE	1	(P4003-ERASE HEAD)
		VEE9144	WIRE CABLE	1	[SUPPLIED FROM MBV]
					(P2502-CYLINDER)
		VWJ0868	FLAT CARD CABLE	1	(P2501-CAPSTAN)
	■	VEP05204A	HEAD AMP C.B.A.		[SUPPLIED FROM MBV]
					(RTL)
C501		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C502,03		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C504		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C505		ECUM1C105ZFN	C.CAPACITOR CH 50V 1U	1	
C506		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C507		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C508,09		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C510,11		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C512,13		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C514,15		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C516-18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C519		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C521		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C523		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C524		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C526		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C527		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C528		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C529		ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C530		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C532		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C541		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C542		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C551		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C552		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C553		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C554-57		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C558		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C559		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C560		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C561		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C562		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
D501		1SS254	DIODE	1	
D502,03		MA151WA	DIODE	2	
D551		MA151WA	DIODE	1	
D552		1SS254	DIODE	1	
IC501		AN3360SB	IC	1	
K501		VLP0145	INDUCTOR	1	
K502		VLP0145	INDUCTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
K503		VLP0145	INDUCTOR	1	
K504		VLP0145	INDUCTOR	1	
L501,02		VLQ0599J680	COIL 68UH	2	
L505		VLQ0599J121	COIL 120UH	1	
L506		VLQ0599J151	COIL 150UH	1	
L507		VLQ0599J680	COIL 68UH	1	
L551,52		VLQ0599J680	COIL 68UH	2	
P501		VJS3537B020G	CONNECTOR (FEMALE) 20P	1	
P502		VJS2603	CONNECTOR (FEMALE)	1	
Q503		MSD601	TRANSISTOR	1	
QR501		MUN2213	TRANSISTOR-RESISTOR	1	
QR502		UN2221	TRANSISTOR-RESISTOR	1	
QR551		MUN2213	TRANSISTOR-RESISTOR	1	
R501		ERDS2TJ273	C.RESISTOR 1/4W 27K	1	
R503		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R504		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R505		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R506		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R507		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R508-11		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	4	
R512,13		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	2	
R514		ERJ6GMYG242	M.RESISTOR CH 1/10W 2.4K	1	
R515		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R516		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R517		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R518,19		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	2	
R526,27		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R528		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R529		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R530		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R532		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R533		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R549		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R551		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R552		VRE0034E160	M.RESISTOR CH 1/10W 16K	1	
R553,54		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R555		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R556		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
			MISCELLANEOUS		
		VSC3478	SHIELD COVER (MAIN)	1	
		VSC3714	SHIELD COVER (TOP)	1	
		VSC3715	SHIELD COVER (BOTTOM)	1	
	■	VEP07817A	TIMER C.B.A.		[SUPPLIED FROM MBV]
					(RTL)
C7501		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7502		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7504,05		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7506		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7507		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7508		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7509		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7510		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7511		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7512		ECRHA010A54R	V.CAPACITOR	1	
C7513		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7514		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7515		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7516		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C7517		VCE0073	E.CAPACITOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C7518-21		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C7523-25		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C7526		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
D7501,02		MA73	DIODE	2	
D7503,04		1SS254	DIODE	2	
D7505		MA73	DIODE	1	
D7506-08		1SS254	DIODE	3	
D7509		LN81RCPH	LED	1	
D7512,13		1SS254	DIODE	2	
D7515		1SS254	DIODE	1	
D7518		1SS254	DIODE	1	
D7528		1SS254	DIODE	1	
D7531		1SS254	DIODE	1	
D7532		MA4220	DIODE	1	
D7533		1SS254	DIODE	1	
D7540		1SS254	DIODE	1	
D7541		HLMK-D315	DIODE	1	[SUPPLIED FROM MBV]
D7542		1SS254	DIODE	1	
D7546,47		1SS254	DIODE	2	
DP7501		VSL0325	DISPLAY TUBE	1	
IC7501		M37507V4BW	IC	1	[SUPPLIED FROM MBV]
IC7503		RPM675CBRX10	IR RECEIVER UNIT	1	
IC7504		PST7023	IC	1	
IC7505		S80743AL-Z	IC	1	
K7502		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7503		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7509		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7514		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
P7501		VJS3537B032G	CONNECTOR (FEMALE) 32P	1	
Q7501		2SD1991A	TRANSISTOR	1	
QR7501		MUN2112	TRANSISTOR-RESISTOR	1	
QR7503		MUN2211	TRANSISTOR-RESISTOR	1	
QR7504		MUN2111	TRANSISTOR-RESISTOR	1	
R7501-03		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	3	
R7505		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7506-10		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	5	
R7512		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7514		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7515		ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R7516		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7518		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R7519		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7520		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R7521		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7534,35		ERJ6GMYJ132	M.RESISTOR CH 1/10W 1.3K	2	
R7536		ERJ6GEYJ150	M.RESISTOR CH 1/10W 15	1	
R7537		ERJ6GMYJ151	M.RESISTOR CH 1/10W 150	1	
R7539		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7540		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R7542		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R7544,45		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R7546		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7549		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7551,52		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R7553		ERJ6GEYJ180	M.RESISTOR CH 1/10W 18	1	
R7554		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R7556		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7557		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R7558		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
SW7502-04		EVQ11409K	SWITCH	3	
SW7506-10		EVQ11409K	SWITCH	5	
SW7512-15		EVQ11409K	SWITCH	4	
X7501		VSX0608	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJF1122	FIP HOLDER	1	
		VMD1047	LED SPACER	2	
		VMD2247	IR RECEIVER HOLDER	1	
	■	VEP00U88A	MAIN INTERFACE C.B.A.		(RTL)
PS1501		VJS3042B003W	CONNECTOR (FEMALE) 3P	1	
PS6005		VJS3042B003W	CONNECTOR (FEMALE) 3P	1	
	■	VEP00U71A	S-TAB C.B.A.		(RTL)
PP1501		VJP3042A003W	CONNECTOR (MALE) 3P	1	
Q1501		PN205L-NC.VT	TRANSISTOR	1	
SW1501		VES0695	SAFETY TAB SWITCH	1	
			MISCELLANEOUS		
		VMD1927	PHOTO TR. HOLDER	1	FOR Q1501
	■	VEX0129	CYLINDER DRIVE C.B.A.		(RTL)
C2901-03		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	3	
C2904-06		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	3	
C2907		ECUM1E683KBM	C.CAPACITOR CH 25V 0.068U	1	
C2908		ECUM1E473KBM	C.CAPACITOR CH 25V 0.047U	1	
C2910		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
IC2901		AN3814K	IC	1	
P2901		VJP2603W	CONNECTOR (MALE)	1	
P2902		VJP1232T	CONNECTOR (MALE) 5P	1	
R2901		ERX12SJR68	M.RESISTOR CH 1/2W 0.68	1	
			MISCELLANEOUS		
		VMA9138	MAIN HOLDER	1	
	■	----------	MOTOR C.B.A.		
			MISCELLANEOUS		
		VJP3316B002	CONNECTOR (FEMALE) 2P	1	

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
MAIN SYUGO	H0A000-0284B
LUMINANNCE & CHROMINANCE	H0A000-03B46
OSD	H0A000-06993
HIFI AUDIO	H0A000-04447
INPUT/OUTPUT	H0A000-03B23
TIMER SYUGO	H0A000-0285B
TV DEMODULATOR	H0A000-07801
DECODER	H0A000-07784
MOTOR DRIVE	H0A001-04469
HEAD AMP	H0A000-05204
CYLINDER DRIVE	H0A001-00V23
LOADING MOTOR	H0A000-00S75

ORDER NO. VRD9307M131

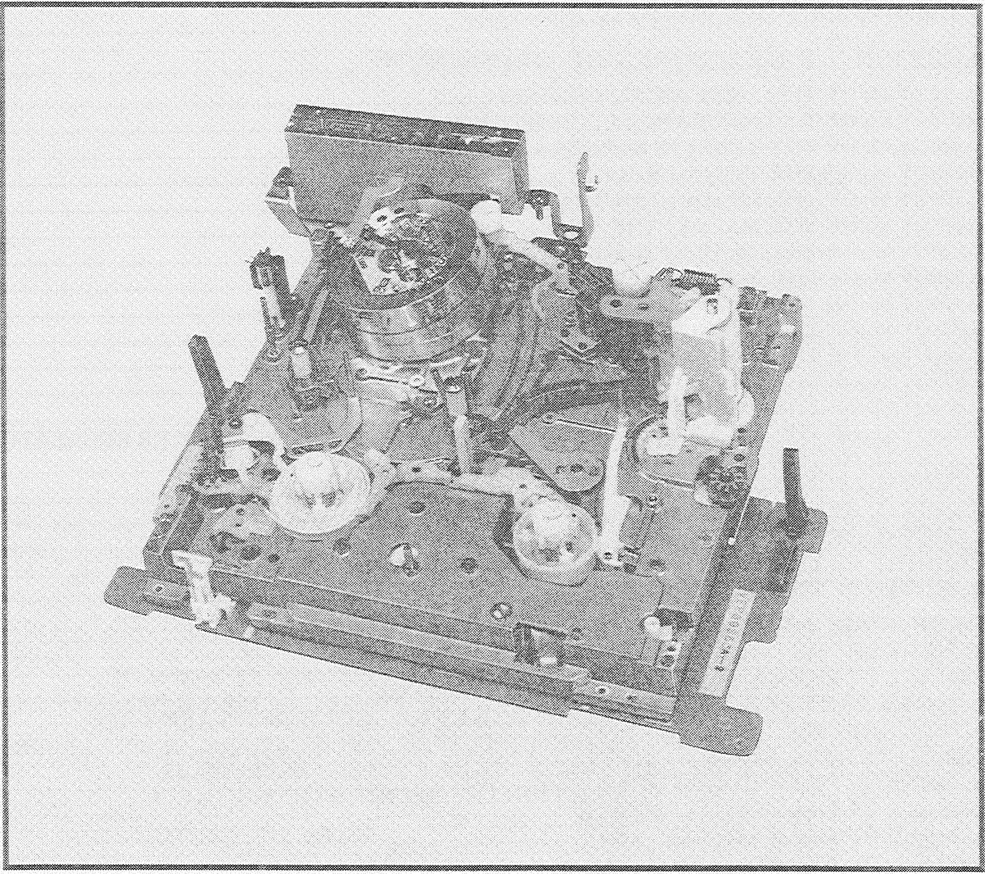
Service Manual

Service Information
Adjustment Procedures
Assembly/Disassembly Procedures
Parts Change (~May '93)
Trouble Shooting

V10220

VHS Video Cassette Recorder
Mechanical chassis

No. K



IMPORTANT

The K-Mechanism chassis are built in several Panasonic VHS Video Cassette Recorders From NV-SD, HD series in 1992.
Thus, properly file this service manual with the service manuals of the relative video cassette recorders.

Panasonic

CONTENTS

1. SERVICE INFORMATION 1
   - 1-1. SERVICE POSITION 1
   - 1-2. REPLACEMENT OF CYLINDER UNIT 2
   - 1-3. ASSEMBLY OF CAPSTAN STATOR UNIT 2
   - 1-4. EJECT OPERATION 3
   - 1-5. TAKE-UP PHOTO SENSOR OPERATION 3
   - 1-6. SERVICING OF POWER TR. C.B.A. 3
   - 1-7. REMOVAL OF THE CASSETTE TAPE 3
   - 1-8. INSTALLATION OF FLAT CARD CABLE 4
   - 1-9. SERIAL CLOCK TRANSMISSION ERROR DISPLAY 4
   - 1-10. SERVICE INFORMATION DISPLAY 5

2. MECHANICAL ADJUSTMENT PROCEDURES 11
   - 2-1. TENSION POST POSITION ADJUSTMENT 11
   - 2-2. BACK TENSION ADJUSTMENT 11
   - 2-3. P2 & P3 POSTS ADJUSTMENT 11
   - 2-4. TAPE INTERCHANGEABILITY ADJUSTMENT 12

3. DISASSEMBLY PROCEDURES OF MECHANISM 17
   - 3-1. REMOVAL OF THE MECHANISM CHASSIS 20
   - 3-2. REMOVAL OF THE MECHANISM CONNECTION C.B.A. 20
   - 3-3. REMOVAL OF THE TENSION ROLLER & SS BRAKE 20
   - 3-4. REMOVAL OF THE TIMING BELT 20
   - 3-5. REMOVAL OF THE LOADING MOTOR BRACKET 20
   - 3-6. REMOVAL OF THE MAIN LEVER UNIT 21
   - 3-7. REMOVAL OF THE TAKE-UP & SUPPLY LOADING ARMS 21
   - 3-8. REMOVAL OF THE MODE SWITCH 21
   - 3-9. REMOVAL OF THE MAIN CAM GEAR 21
   - 3-10. REMOVAL OF THE CAPSTAN ROTOR UNIT 21
   - 3-11. REMOVAL OF THE SUB CAM GEAR 22
   - 3-12. REMOVAL OF THE CENTRE CLUTCH 22
   - 3-13. REMOVAL OF THE TAKE-UP & SUPPLY REEL GEARS 22
   - 3-14. REMOVAL OF THE IDLER ARM UNIT, CONNECTION LEVER UNIT & IDLER REGULATOR LEVER 23
   - 3-15. REMOVAL OF THE TOP PLATE 23
   - 3-16. REMOVAL OF THE CASSETTE HOLDER 23
   - 3-17. REMOVAL OF THE PINCH ARM UNIT 24
   - 3-18. REMOVAL OF THE PINCH CAM GEAR & P5 ARM UNIT 24
   - 3-19. REMOVAL OF THE TAKE-UP TENSION REGULATOR ARM UNIT 24
   - 3-20. REMOVAL OF THE CARRIAGE CONNECTION GEAR 25

4. ASSEMBLY PROCEDURES OF MECHANISM 25
   - 4-1. VIEW OF PHASE ALIGNMENT 25
   - 4-2. ASSEMBLY OF THE CARRIAGE CONNECTION GEAR 27
   - 4-3. ASSEMBLY OF THE TAKE-UP TENSION REGULATOR ARM UNIT, P5 ARM UNIT, PINCH CAM GEAR, P5 STOPPER BASE, P5 STOPPER, PINCH CAM UNIT & OPENER PIECE 27
   - 4-4. ASSEMBLY OF THE IDLER ARM UNIT, TAKE-UP & SUPPLY REEL GEARS, IDLER REGULATOR LEVER, CONNECTION LEVER UNIT & CENTRE CLUCH 27
   - 4-5. ASSEMBLY OF THE SUB CAM GEAR 27
   - 4-6. ASSEMBLY OF THE STATOR UNIT 28
   - 4-7. ASSEMBLY OF THE MAIN CAM GEAR 28
   - 4-8. ASSEMBLY OF THE MODE SWITCH 28
   - 4-9. ASSEMBLY OF THE TAKE-UP & SUPPLY LOADING ARMS 29
   - 4-10. ASSEMBLY OF THE MAIN LEVER 30
   - 4-11. ASSEMBLY OF THE WORM WHEEL GEAR & LOADING MOTOR BRACKET 30
   - 4-12. ASSEMBLY OF THE TIMING BELT & SS BRAKE BASE 30
   - 4-13. ASSEMBLY OF THE PINCH ARM UNIT 31
   - 4-14. CHECKING THE MECHANISM MOVEMENT 31
   - 4-15. ASSEMBLY OF THE CASSETTE HOLDER 31
   - 4-16. ASSEMBLY OF THE MECHANISM CHASSIS 33

5. PARTS CHANGE 35
   - 5-1. PARTS LIST 35
   - 5-2. EXPLODED VIEWS OF INCLINED BASE (S), (T) UNIT 36
   - 5-3. INCLINED BASE (S), (T) UNIT CHANGES 36

6. TROUBLE SHOOTING 37

1. SERVICE INFORMAION

1−1. SERVICE POSITION

When servicing the K−Mechanism, the Mechanism can easily be fixed by standing the Mechanism up in the Main Frame as shown below to check easily.

In this position, the following services are possible.

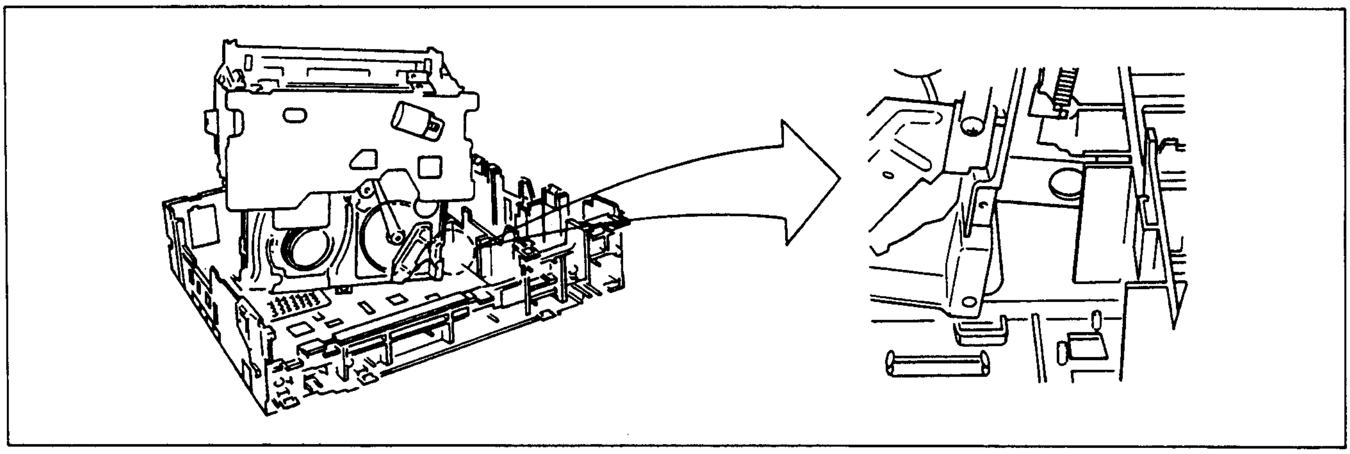


Fig. S1

1−1−1. CHECKING OF GEAR PHASE ALIGNMENT CONDITION

1) Remove the Mechanism Connection C.B.A.
2) Check gear phase Alignment Condition of Mechanism described on the left (NV−SD series) or bottom (NV−HD series) side of Frame.)

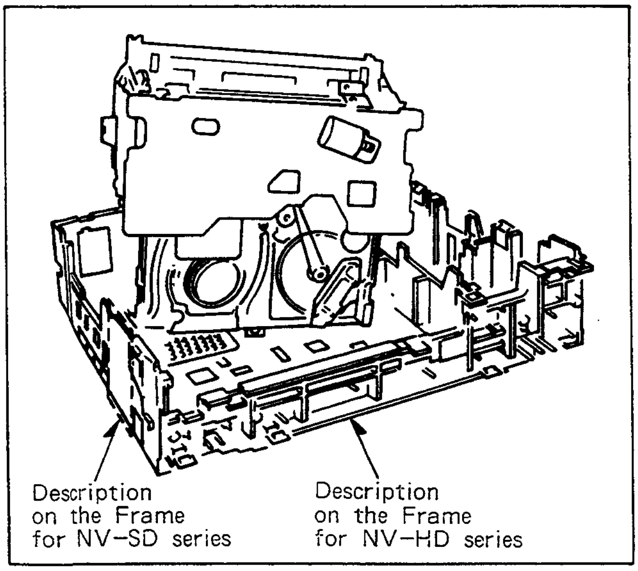

Description on the Frame for NV−SD series
Description on the Frame for NV−HD series

Fig. S2

1−1−2. Checking of Loading / Unloading Operation.

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Turn the Worm Gear or the WORM WHEEL GEAR (Remove the loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) **Connect the Battery (Manganes-Type R6 (AA) 3pcs./+4.5V) or Power Supply (+4.5V) to the Loading Motor terminals.**

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. (Turn the Shuttle Ring to FF then push the Eject button, or press the FF, REW and Eject buttons simultaneously.)
   2) Make a momentary short circuit as shown in the service manual, or press the TV/VTR button.(The end of display on the Display becomes "−−".)

Note:

For NV−HD100AM/MC, NV−F125BD, NV−SD20EE, and NV−SD25AM, make a momentary short circuit between TL7508 and D7517−cathoid For NV−HD100AM/MC and NV−F12513D, or TL7508 and D7527−cathoid for NV−SD20EE and NV−SD25AM.

3) In the above Service Information Display mode, The Loading Motor rotates for loading operation when the "PLAY" button is pressed The Loading Motor rotates for unloading operation when the "STOP" button is pressed.

Remark:

After checking, check the "SERVICE" INFORMATION DISPLAY" mode for final confirmation of movement of Mechanism.

1-1-3. Checking of operation of Reel Gears.

1) Remove the Mechanism Connection C.B.A.
2) Set mechanism to "PLAY" position by manual operation of loading.
3) Turn the "Rotor Unit" to check movement of reel gears.

1-2. REPLACEMENT OF CYLINDER UNIT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the 3 screws of the Cylinder Unit with a magnetized screw driver through the holes on the Bottom Plate as shown in Fig.S4.

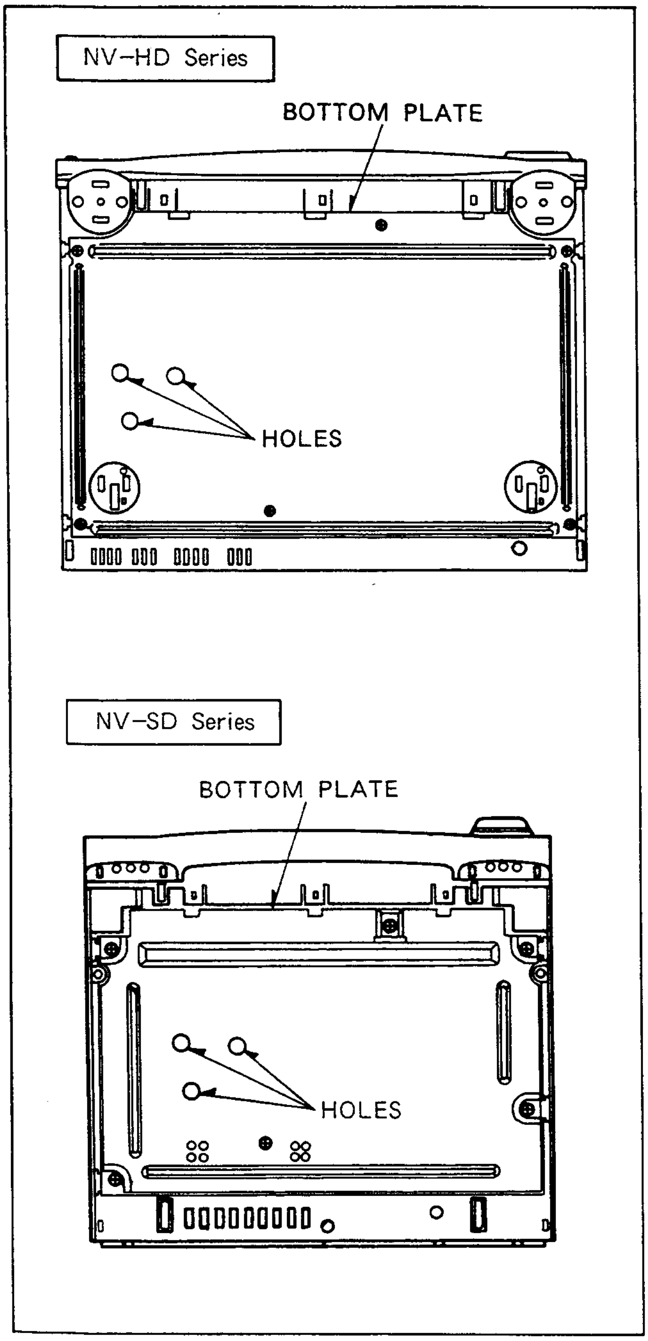

NV-HD Series
BOTTOM PLATE
HOLES
NV-SD Series
BOTTOM PLATE
HOLES

Fig. S4

1-3. ASSEMBLY OF CAPSTAN STATOR UNIT

When replacing the CAPSTAN STATOR UNIT, the CENTRE FIXING TOOL (VFK0851) must be used to fix the centre of CAPSTAN STATOR UNIT.

Method:

1) Place the CAPSTAN STATOR UNIT into position.
2) Loosely tighten the 3 screws.
3) Insert the CENTRE FIXING TOOL (VFK0851) as shown in Fig.S5.
4) Tighten the 3 screws.
5) Remove the CENTRE FIXING TOOL.

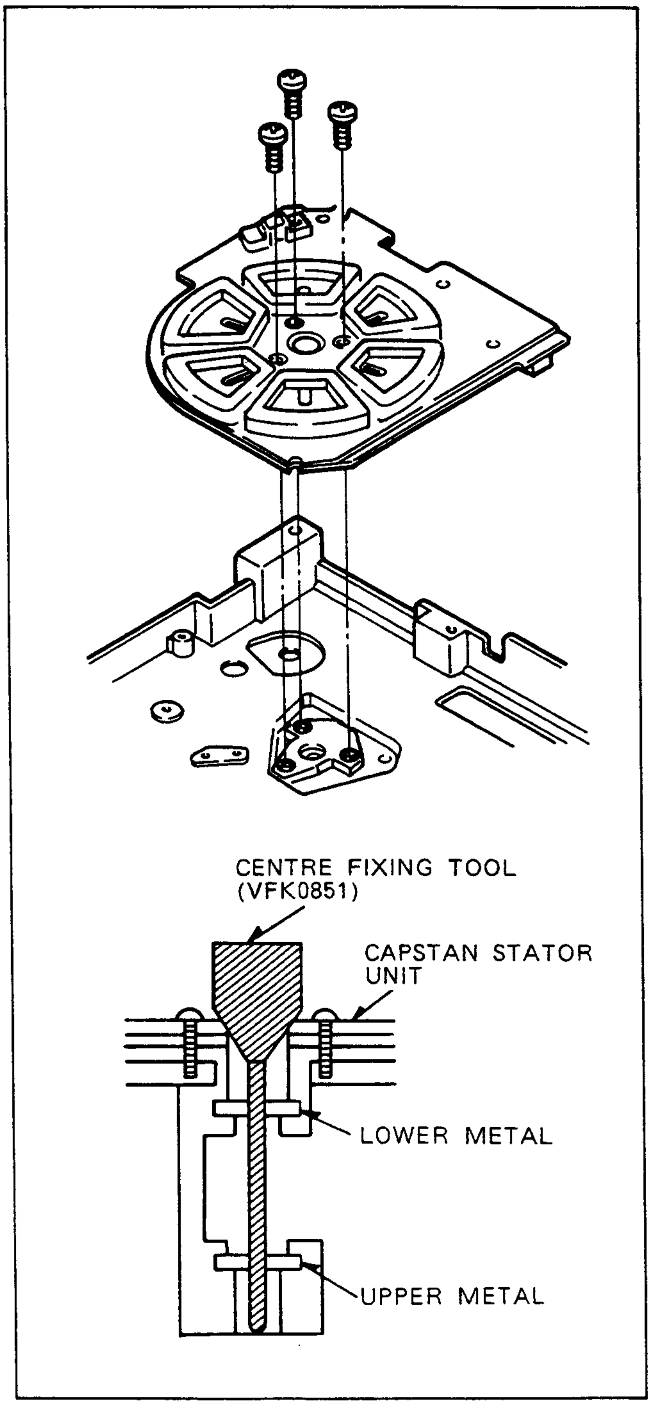

CENTRE FIXING TOOL
(VFK0851)
CAPSTAN STATOR UNIT
LOWER METAL
UPPER METAL

Fig. S5

1–4. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

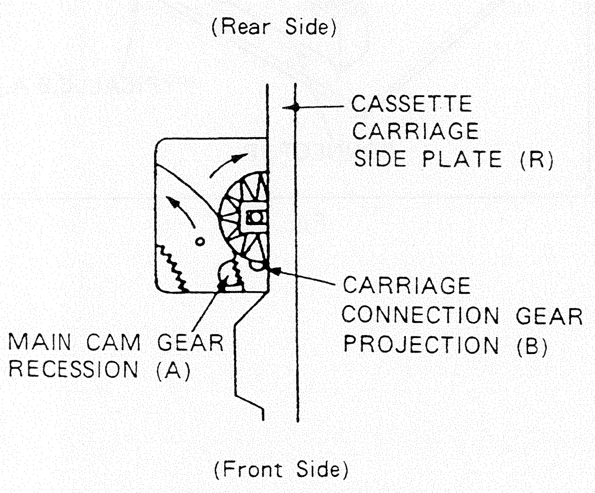

(Rear Side)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(Front Side)

Fig. S6 Top View of Eject Operation

1–5. TAKE–UP PHOTO SENSOR OPERATION

Note the following matters for Take–up Photo Sensor Operation.

1) While servicing of the K–Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take–up Photo Sensor.
   In this case, cover the Take–up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K–Mechanism with "Power On" and without cassette tape inserted, the Unit does not operate properly.

1–6. SERVICING OF POWER TR C.B.A.

When removing the connector on the Power Tr. C.B.A., hold the P. C. Board by hand to prevent damage of the Power Tr.

1–7. REMOVAL OF THE CASSETTE TAPE

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Remove the bottom plate.
2) Turn the WORM GEAR to "A" arrow mark direction manually as shown in Fig.S7, moving the LOADING POST to the unloaded position.
3) Turn the CAPSTAN clockwise to take up the tape.
4) Turn the WORM GEAR again to eject the cassette.

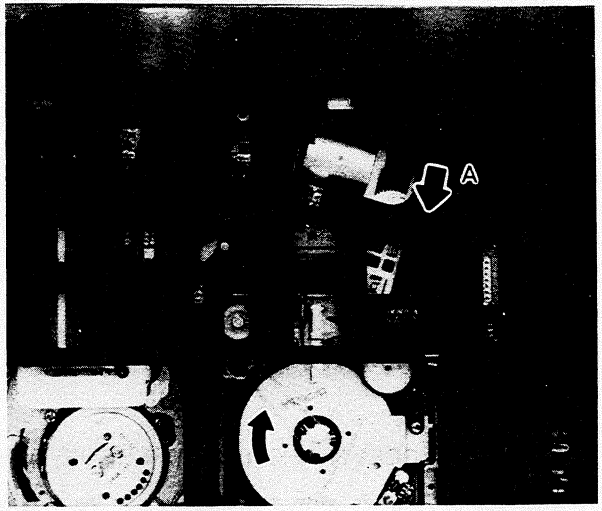


Fig. S7

2. BATTERY OPERATION

1) Connect the battery (Manganes-Type R6 (AA) 3pcs./+4.5V) to P1503 as shown in Fig. S8.
2) After moving the LOADING POST to the unloaded position, disconnect the battery to stop the motor.
3) Turn the CAPSTAN to clockwise to take up the tape.
4) Reconnect the battery to eject the cassette.

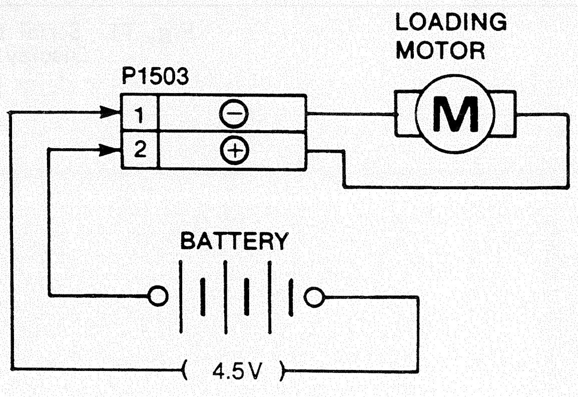


Fig. S8

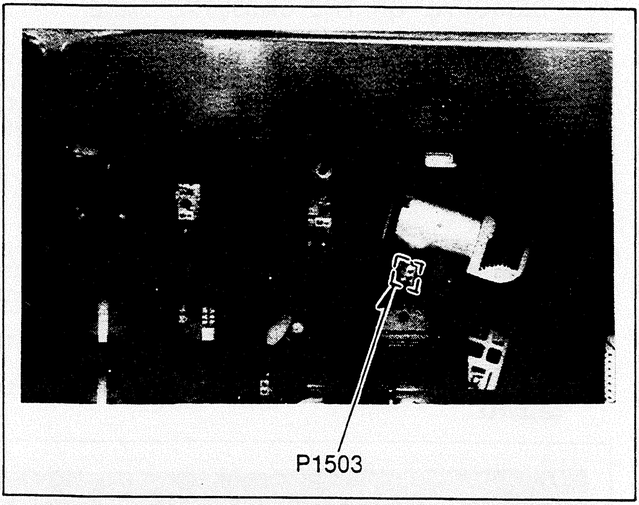


Fig. S9

1–8. INSTALLATION OF FLAT CARD CABLE

When installing of the Flat Card Cable to the connector, make sure the direction of the Flat Card Cable. The Insulation Sheet side is backside.

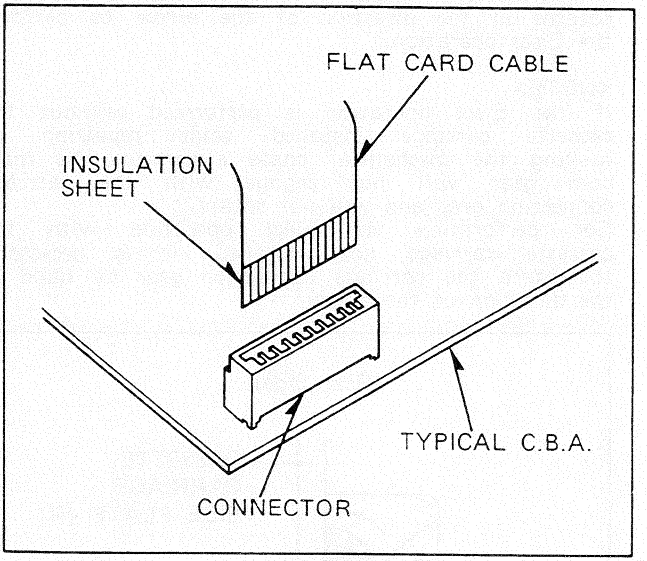

FLAT CARD CABLE
INSULATION SHEET
TYPICAL C.B.A.
CONNECTOR

Fig. S10

1–9. SERIAL CLOCK TRANSMISSION ERROR DISPLAY

If the Serial Clock is not transmitted from IC6001 to IC7501, "E9" is displayed as shown in Fig.T1. This indication will be displayed either during the Service Information Display mode or in normal mode.

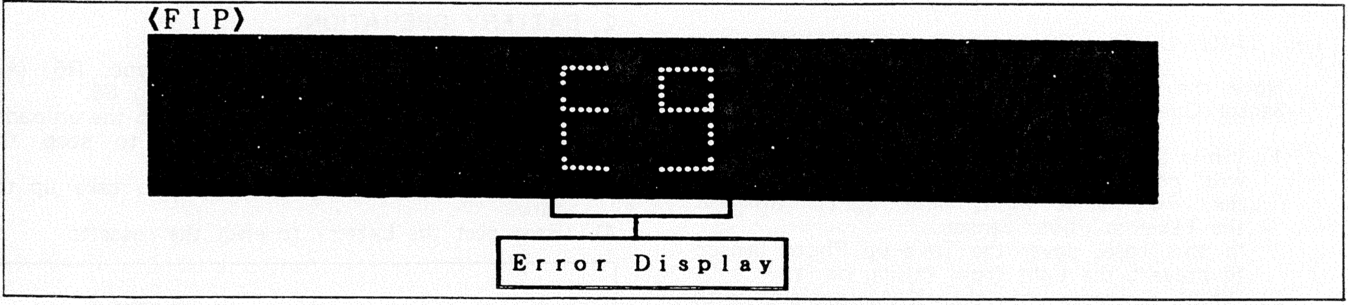

⟨F I P⟩
E9
Error Display

Fig. T1 Serial Data/Clock Transmission Error Display

1-10. SERVICE INFORMATION DISPLAY

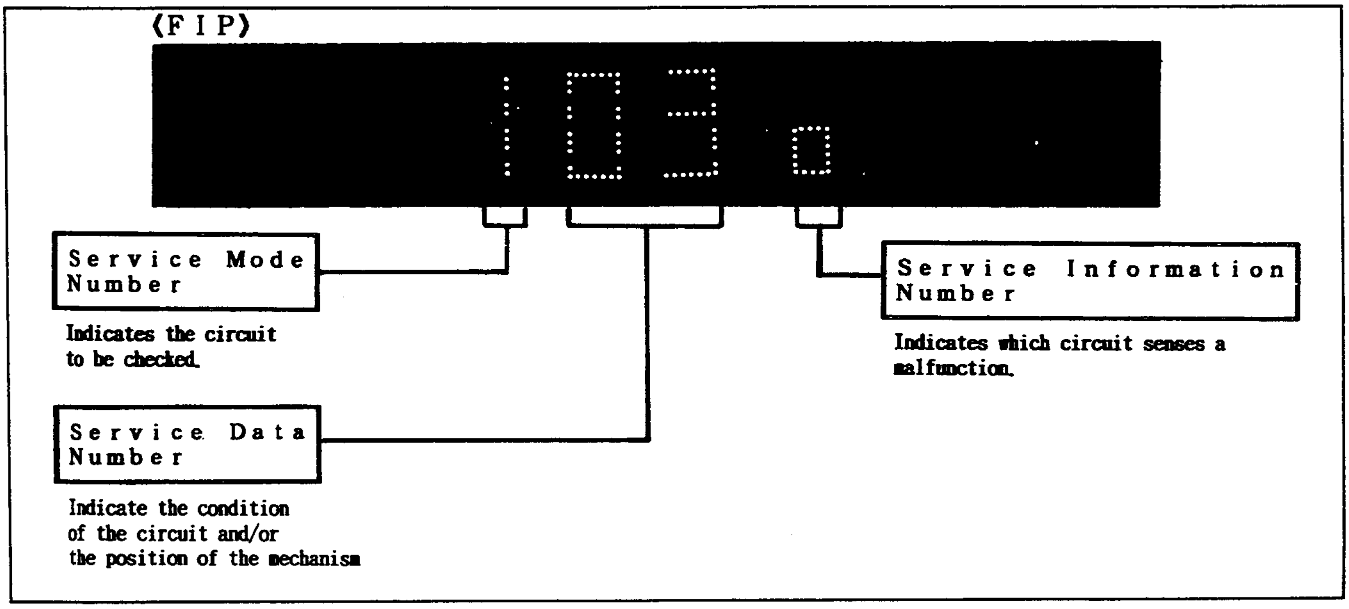

(F I P)
1
03
0
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D1 Service Information Display

1-10-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-10-2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.

(1) Turn the Shuttle Ring to FF then push the Eject button. The Service Information will be displayed for 1 minute.
(2) Connecting a jumper wire between TPSERV and TPGND For NV-SD series (TP6010 and TP6011 for NV-HD series) will display the service information indefinitely.

In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which other 7 service modes that the unit is Currently in.

MODE 1 : Check tape protection circuit
MODE 2 : Check tape transport mechanism
MODE 3 : Check mode switching operation
MODE 4 : Check control buttons
MODE 5 : Check capstan motor
MODE 6 : Check cylinder motor
MODE 7 : Check loading/unloading operation

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is supplied.

1–10–3. Use of Service Modes

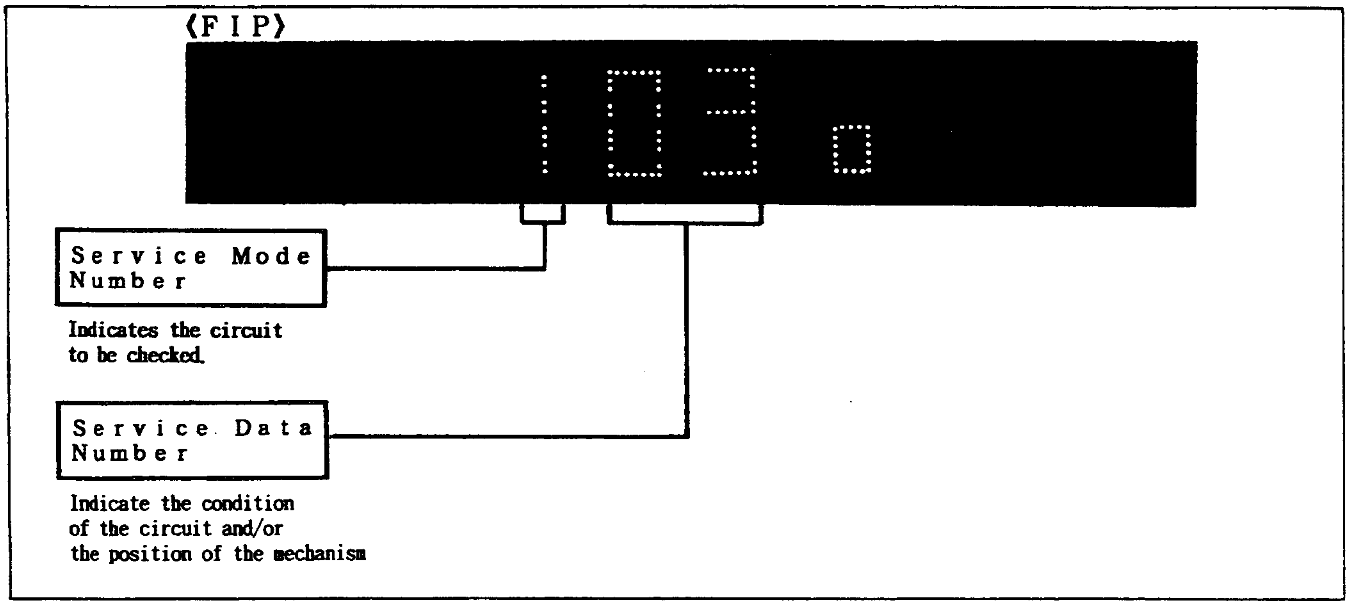
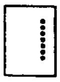

〈F I P〉
1
03
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism

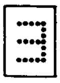
Fig. D2 Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.
(2) To change Service Modes turn the shuttle ring to FF then push the Eject button.
(3) Mode 1 : Checks that the Sensor LED, Supply & Take–up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take–up Sensors.
When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.

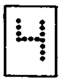


(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.



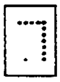
(6) Mode 4 : Checks the operation circuit.
Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.



(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.

(8) Mode 6 : Checks the cylinder motor circuit.
IC6001 has received the command to rotate the cylinder motor.

(9) Mode 7: Checks the Loading/Unloading Operation.
The Loading Motor rotates for loading operation when the "PLAY" button pressed.
The Loading Motor rotates For operation when the "STOP" button is pressed.
Note: This mode can be used by the System Control Microprocessor IC6001: MN67434VRSG or MN67434VRSH.



<NOTE>
Refer to Fig.D5 for details of Service Data Number.

1-10-4. Service Information Number

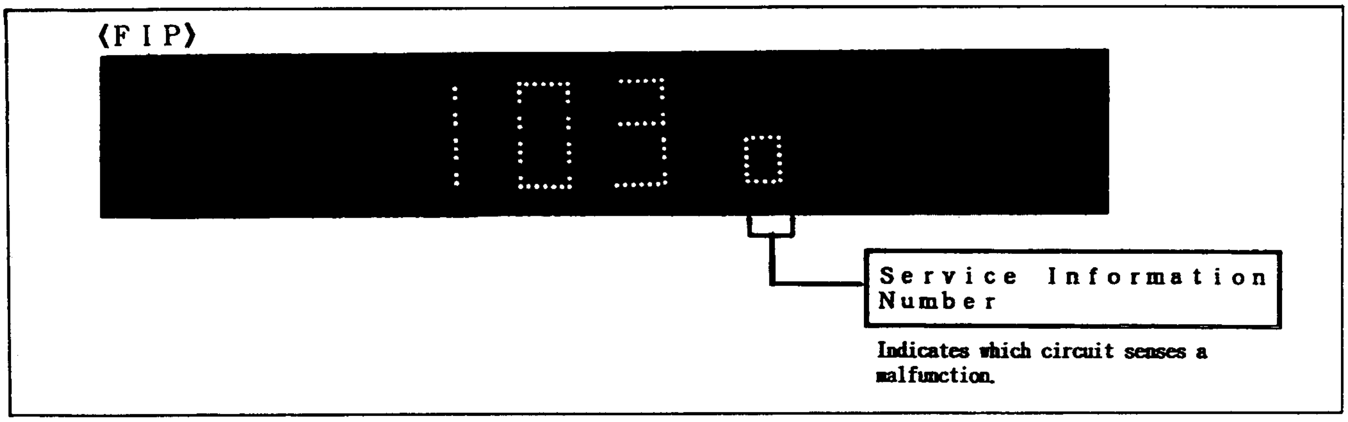

⟨F I P⟩
103
0
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D3 Service Information Number on S.I.D.

Refer to Fig.D4 for details of Service Information Number.

Note:
The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is supplied.
If a second error occurs, the most current error will be displayed.

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Falty capstan rotation
6	Stop during Cassette-In/Eject operation

Fig. D4 Service Information

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	—	00	No light detected at either sensor	Tape not required
		01	Tape Begining. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2	—	00	EJECT	Tape Reuired *1 : STOP3 ; The Pinch Roller is on the capstan motor shaft. *2 : STOP ; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP*2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.	8 1 Left Digit Right Digit	8, 9, u, A, ‑, n, L, and no display indicate that the Capstan motor "PLAY" command recived by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.	8 7 Left Digit Right Digit	1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor CUE, FF, Forward slow" commands received by IC6001.	
	Right digit only, disregard left digit display.	8 Left Digit Right Digit	8, 9, u, A, ‑, n, L, and no display indicate that the Capstan motor Reverse, Rew, Reverse Slow commands received by IC6001.	
6	Left digit only, disregard Right digit display.	1 0 Left Digit Right Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

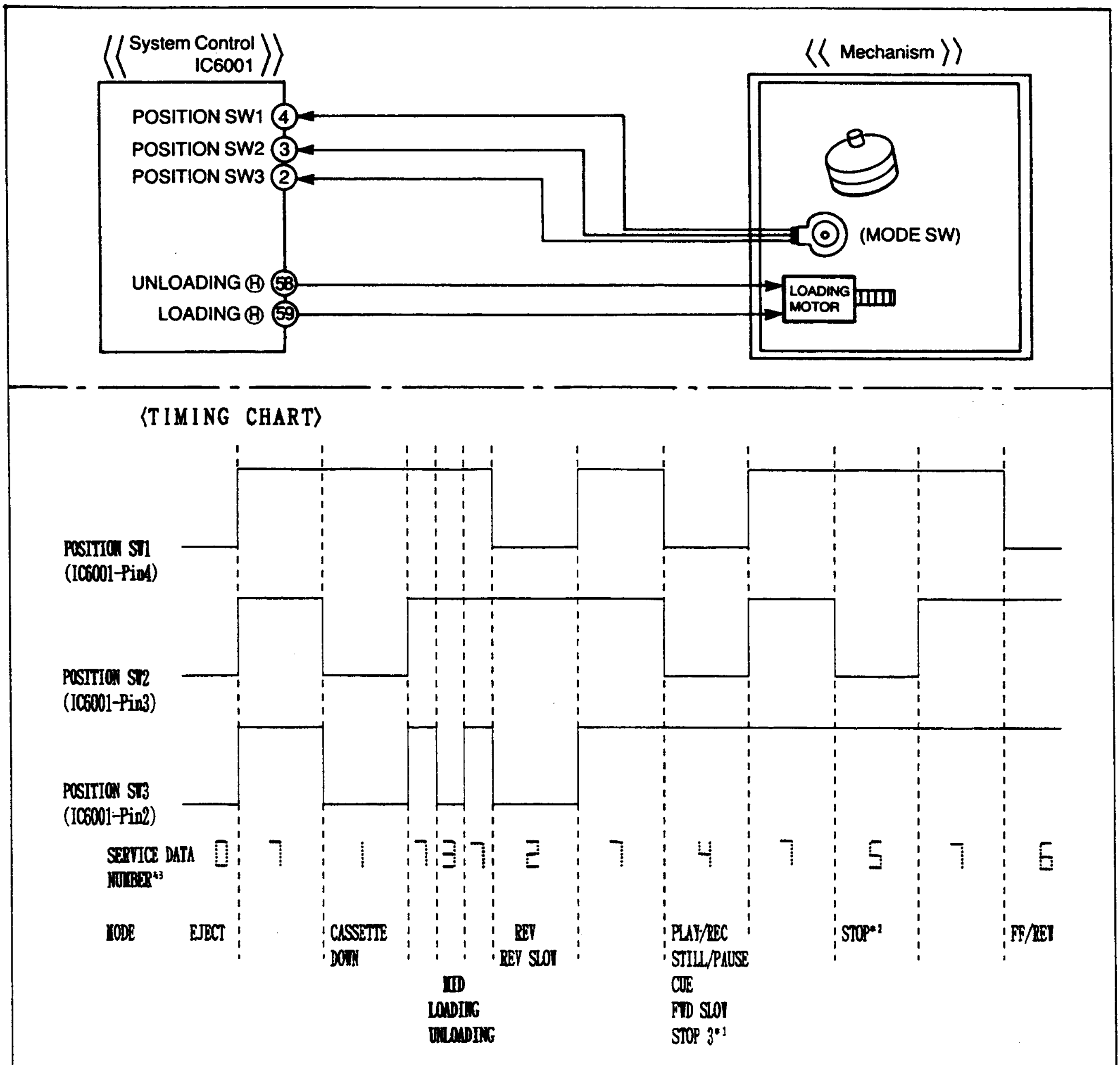
Fig. D5 Service Data Display and Indication

SERVICE DATA NUMBERS	MODE BUTTONS	SERVICE DATA NUMBERS	MODE BUTTONS
3n	OPERATE	54	RESET
01	EJECT	5	ZERO STOP
09	AUDIO DUB	-0	INPUT SELECT
A3	INSERT	49.4U	INDEX
-9	PAL/MESECAM	A1.A2	TRACKING(+,-)/V-LOCK
—	CHECK/PROG.	9	REPEAT
34 OR 35	∧∨, +-	8	SKIP
—	NEXT/SP/LP	—	TAPE SELECT
—	SLEEP/SHIFT	—	PROG.
A4	TIMER REC	—	NEXT
08	REC	—	RECORDING SP/LP
—	CLOCK SET	—	CANCEL
—	TUNER PRESET	10	SU(1)
80	PAUSE/STILL	11	MO(2)
0U	PLAY	12	TU(3)
00	STOP	13	WE(4)
0-.0n	JOG DIAL (FRAME ADV, REVERSE ADV)	14	TH(5)
03.02	SHUTTLE RING (FF, REW)	15	FR(6)
—	TV/VTR	16	SA(7)
—	SCANNER ON/OFF	17	SU~SA(8)
—	TRANSMIT	18	MO~SA(9)
0	SEARCH	19	MO~FR(0)
8L	+ (REMOTE CONTROLLER)	3A	-/--
8	- (REMOTE CONTROLLER)		
—	DISPLAY		

Fig. D6 Service Data Display for Service mode 4

1-10-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position though the Mode SW.
Fig.D7 shows the timing for Service Mode Number 2.



System Control IC6001
POSITION SW1 4
POSITION SW2 3
POSITION SW3 2
UNLOADING Ⓗ 58
LOADING Ⓗ 59
Mechanism
(MODE SW)
LOADING MOTOR
〈TIMING CHART〉
POSITION SW1 (IC6001-Pin4)
POSITION SW2 (IC6001-Pin3)
POSITION SW3 (IC6001-Pin2)
SERVICE DATA NUMBER*3
0 7 1 7 3 7 2 7 4 7 5 7 6
MODE
EJECT
CASSETTE DOWN
MID LOADING UNLOADING
REV REV SLOW
PLAY/REC STILL/PAUSE CUE FWD SLOW STOP 3*1
STOP*2
FF/REW

*1 : Stop 3; The Pinch Roller is on the capstan motor shaft.

*2 : Stop ; The Pinch Roller is off the capstan motor shaft.

*3 : Service Data Number; This is for Service Mode Number2.

Fig. D7 Timing Chart of Mode SW

2. MECHANICAL ADJUSTMENT PROCEDURES

2–1. TENSION POST POSITION ADJUSTMENT

(Equipment Required)
Hex Wrench (VFK0326)

1. Disconnect the AC plug.
2. Remove the TOP PLATE and CASSETTE HOLDER.
3. Turn the LOADING MOTOR until the loading completes.
4. Adjust the hole of TENSION BAND FASTENER by hex wrench so that the left edge of IMPEDANCE ROLLER and TENSION ARM UNIT as shown in Fig.M1.

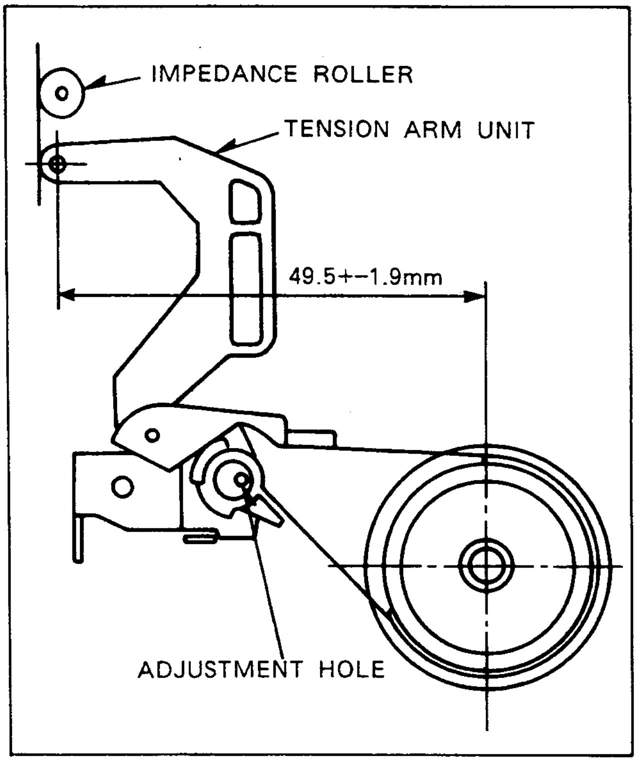


Fig. M1

2–2. BACK TENSION ADJUSTMENT

(Equipment Required)
Back Tension Meter (VFK0132)
VHS Cassette Tape (180 minutes tape: PAL)
(120 minutes tape: NTSC)

(Specification)
22.5–27.5g

1. Playback the cassette tape from the beginning and wait until the tape movement get the stabilization. (for approx. 10～20 seconds)
2. Insert the Back tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Fig.M2.

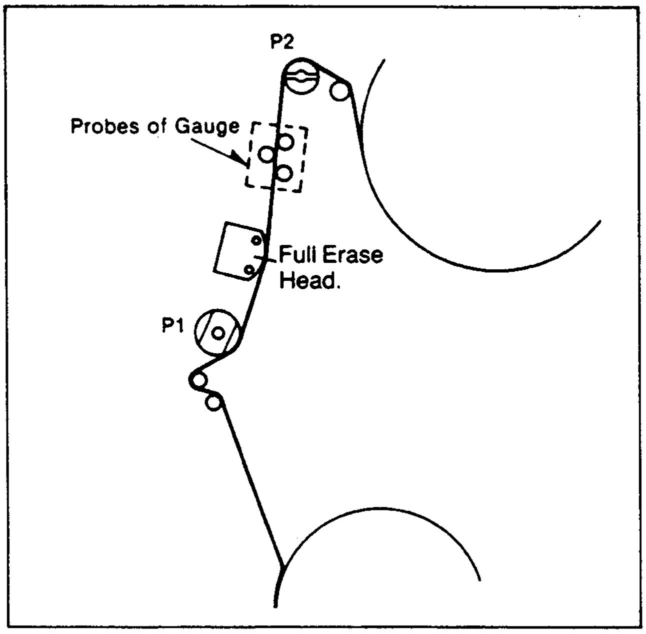


Fig. M2

3. If it is out of specification, change the spring notch as shown in Fig.M3.

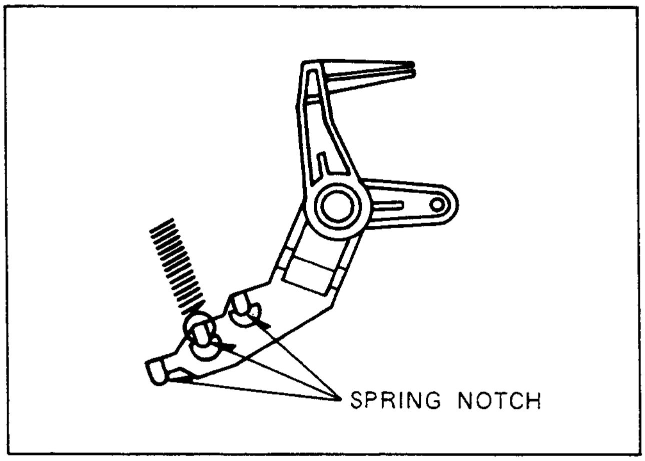
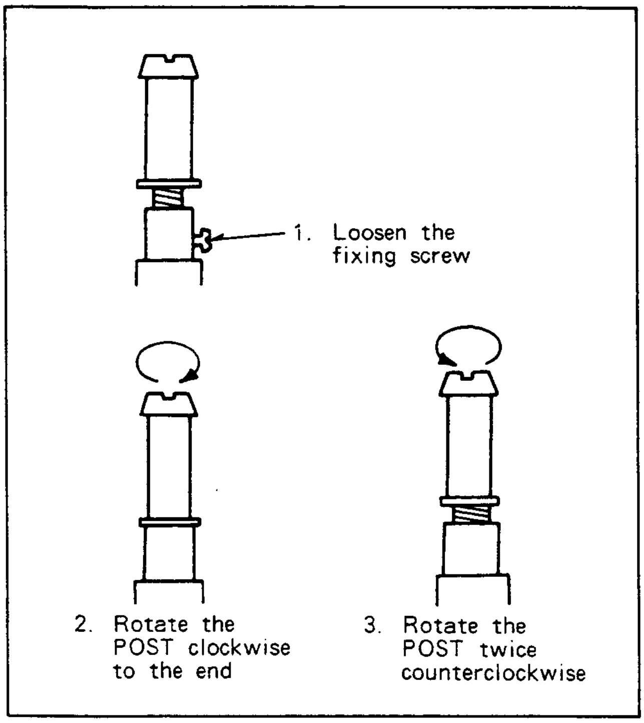


Fig. M3

2–3. P2 AND P3 POSTS ADJUSTMENT (PREADJUSTMENT)

(Equipment Required)
Post Adjustment Screwdriver (VFK0329)

1. Remove the TOP PLATE and CASSETTE HOLDER.
2. Turn the LOADING MOTOR until the unloading completes.
3. Loosen the fixing screw of P2 and P3 POSTS.
4. Rotate the P2 and P3 POSTS clockwise to the end.
5. Rotate the P2 and P3 POSTS twice counterclockwise.



1. Loosen the fixing screw

2. Rotate the POST clockwise to the end

3. Rotate the POST twice counterclockwise

Fig. M4

6. Install the TOP PLATE and CASSETTE HOLDER
7. Playback the cassette tape and make sure that the edges of the tape are not curling at the bottom or top end of the P1, P2, P3 and P4 POSTS as shown in Fig.M5.

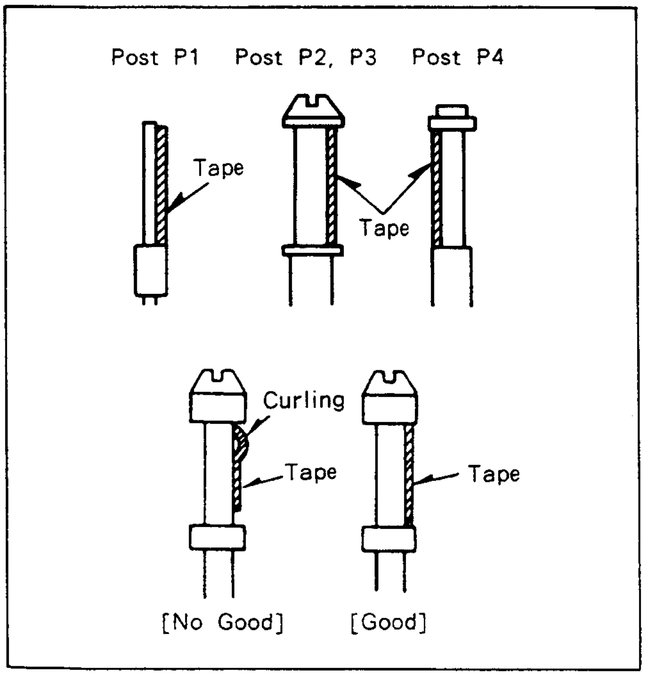

Post P1
Post P2, P3
Post P4
Tape
Tape
Curling
Tape
Tape
[No Good]
[Good]

Fig. M5

8. If curling appears, readjusts the P2 and P3 POSTS.

2-4. TAPE INTERCHANGEABILITY ADJUSTMENT

Carry out the following procedures for Tape interchangeability Adjustment to do it correctly and smoothly.

(1) Adjustment of P2 and P3 Posts.
(2) Height Adjustment of A/C Head (1).
(3) Height Adjustment of A/C Head (2).
(4) Fine-Adjustment of A/C Head
(5) Horizontal Position Adjustment of A/C Head.

If the Tape Interchangeability Adjustment is not perfect, repeat the above procedures from (1) to (5).

CAUTIONS:

To mark a Adjustment Mode for Tape Interchangeability, connect a Cut Jumper Wire as shown in Fig.M6.
(Auto Tracking is turned off.)
After finishing the adjustment, disconnect the Cut Jumper Wire.

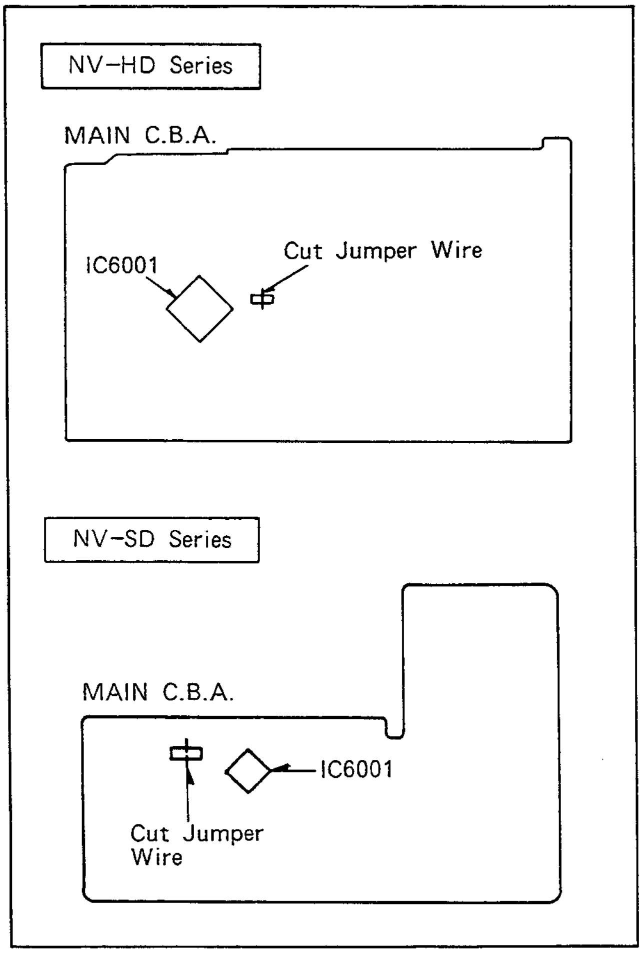

NV-HD Series
MAIN C.B.A.
IC6001
Cut Jumper Wire
NV-SD Series
MAIN C.B.A.
IC6001
Cut Jumper Wire

Fig. M6

(1) Adjustment of P2 and P3 Posts

(Equipment Required)
Alignment Tape(PAL/SECAM: VFJ8125H3F,
NTSC: VFM8080HQFP)
Post Adjustment Screwdriver (VFK0329)

1. Set the tracking control into the fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
   And connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.

Note:
To get a stable waveform of the Head Amp output on the oscilloscope, use the head switching pulse as a triggering signal as shown in Fig.M7.

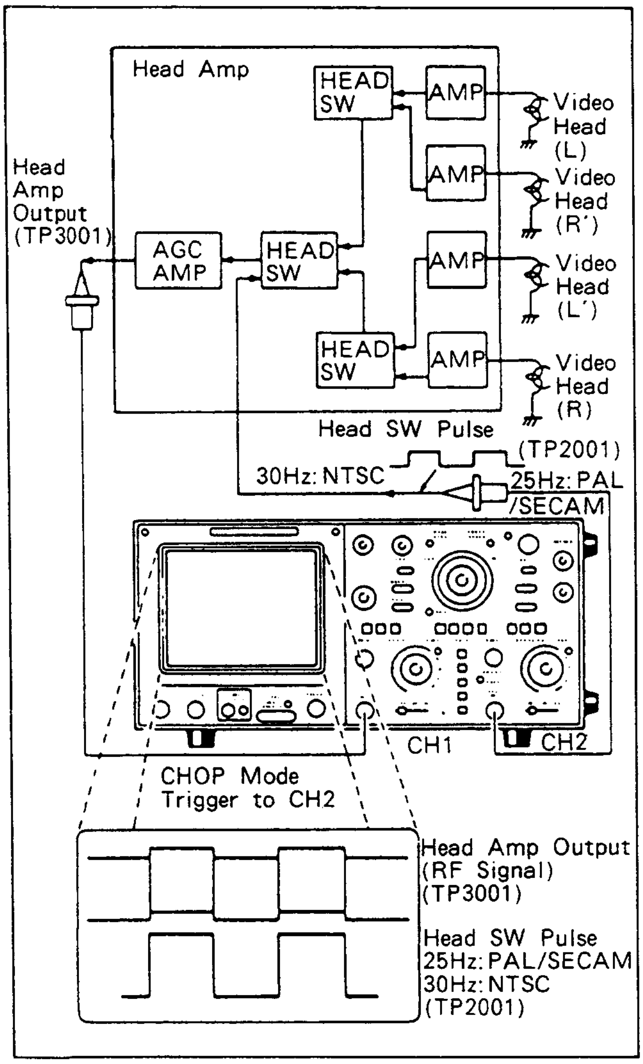

Head Amp
HEAD SW
AMP
Video Head (L)
Video Head (R')
Video Head (L')
Video Head (R)
Head Amp Output (TP3001)
AGC AMP
Head SW Pulse
(TP2001)
30Hz: NTSC
25Hz: PAL /SECAM
CH1
CH2
CHOP Mode
Trigger to CH2
Head Amp Output (RF Signal) (TP3001)
Head SW Pulse 25Hz: PAL/SECAM 30Hz: NTSC (TP2001)

Fig. M7 Connect of Oscilloscope

2. Playback the alignment tape.
3. If the RF envelope appears like example "A" or "B" in Fig.M8 then adjustment of the tape guide post (P2: Entrance) is necessary.
4. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig.M8−"C".

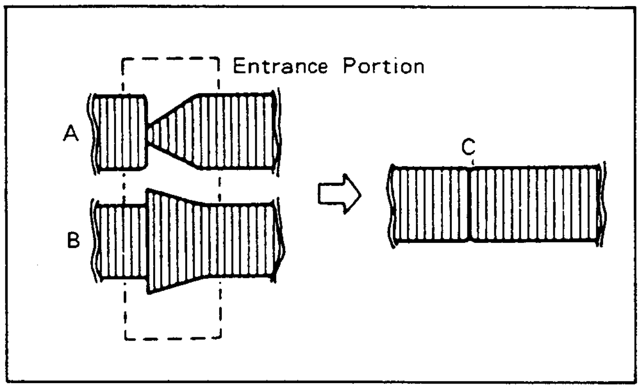

Entrance Portion
A
B
C

Fig. M8

5. If the RF envelope appears like example "D" or "E" in Fig.M9, then adjustment of the tape guide post (P3: Exit) is necessary.
6. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Fig.M9−"F".

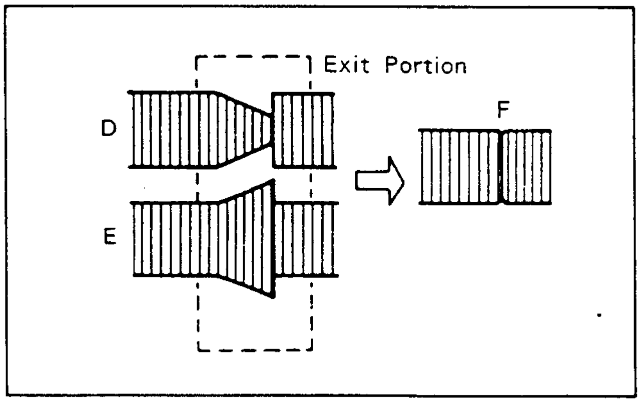

Exit Portion
D
E
F

Fig. M9

7. Turn the Tracking VR fully clockwise and counter clockwise. (Keep pressing + button or − button on the Remote Controller) The output envelope should vary nearly parallel with other condition as shown in Fig.M10.
8. Set the tracking control into centre fix position and adjust for maximum RF envelope, whilst being as flat as possible.

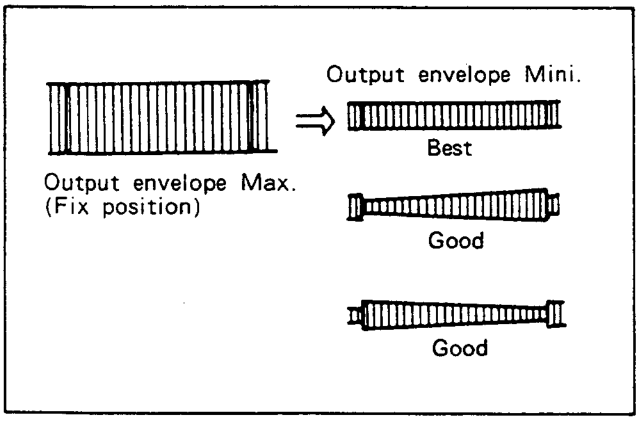

Output envelope Mini.
Best
Good
Good
Output envelope Max.
(Fix position)

Fig. M10

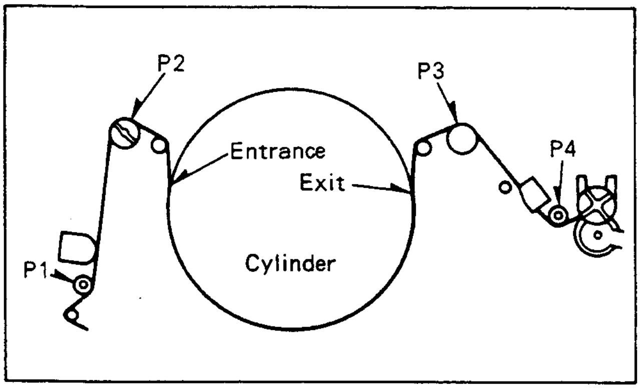

P2
P3
P4
P1
Entrance
Exit
Cylinder

Fig. M11 Loading of Posts

(2) Height Adjustment of A/C Head (1)

1) Install the A/C HEAD on the A/C HEAD BASE(E) by 3 screws (A),(B) and (C) with springs.
2) Tighten the screw (A) unit it touches chassis and then rotate the SCREW (A) counterclockwise for approx. 1.5 times.
3) Rotate the 2 screws(B) and (C) until A/C HEAD BASE(D) and (E) is separate.

CAUTION:
When adjusting the Screws (B) and (C) on the A/C HEAD BASE(E), do not touch the Screw Driver to the face of the A/C HEAD.

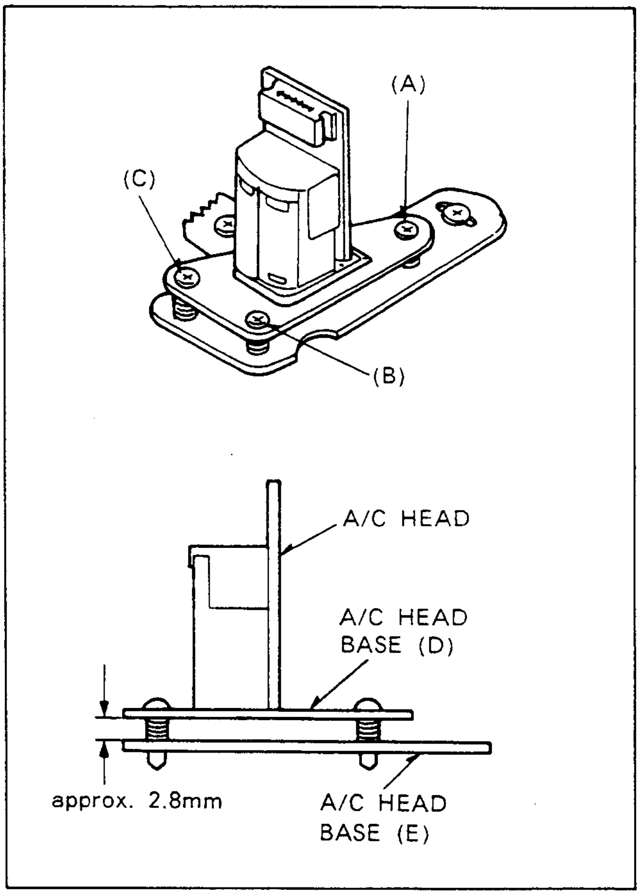
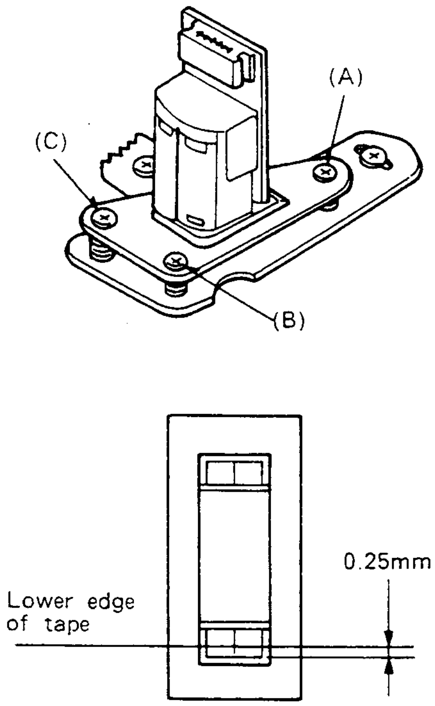

(A)
(C)
(B)
A/C HEAD
A/C HEAD BASE (D)
approx. 2.8mm
A/C HEAD BASE (E)

Fig. M12

(3) Height Adjustment of A/C Head (2)

1) Playback the alignment tape.
2) Rotate the screw (A) or (B) until the wrinkle appears on the lower edge of tape at P4 post.
3) Rotate the screw (A) or (B) until the wrinkle just disappears on the lower edge of tape at P4 post.
4) Connect the oscilloscope to audio output terminal.
5) Rotate the screw (C) until audio signal is maximized.



	SCREW (A)	SCREW (B)
So wrinkle appears on the lower edge of tape	COUNTERCLOCKWISE	CLOCKWISE
So wrinkle disappears on the lower edge of tape	CLOCKWISE	COUNTER CLOCKWISE

Fig. M13

(4) Fine-Adjustment of A/C HEAD

<When moving the A/C HEAD up>

1) Rotate the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 post.
2) Rotate the screw (B) counterclockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) counterclockwise until the audio signal is maximized.

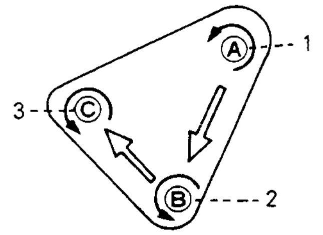


Fig. M14

<When moving the A/C HEAD down>

1) Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape a P4 post.
2) Rotate the screw (A) clockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) clockwise until the audio signal is miximized.

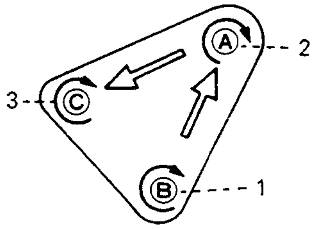


Fig. M15

(5) Horizontal Position Adjustment of A/C HEAD

1) Set the tracking control into the centre fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
2) Connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.
3) Playback the alignment tape.
4) Loosen the 2 screws (F) and (G).
5) Adjust the A/C HEAD BASE (E) until the RF envelope waveform is maximized.

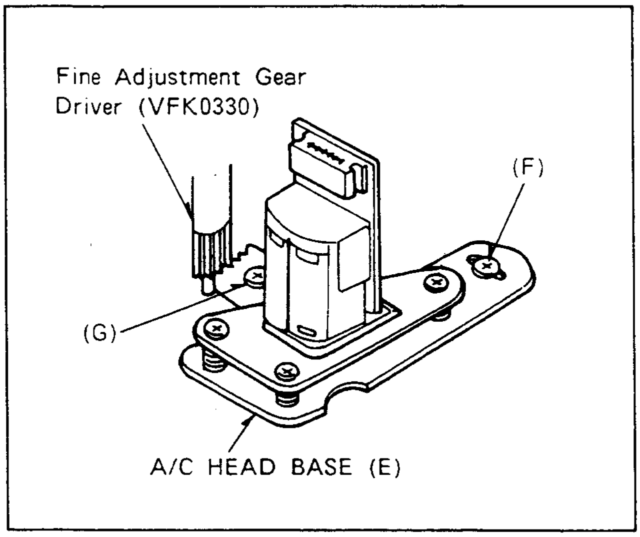

Fine Adjustment Gear
Driver (VFK0330)
(F)
(G)
A/C HEAD BASE (E)

Fig. M16

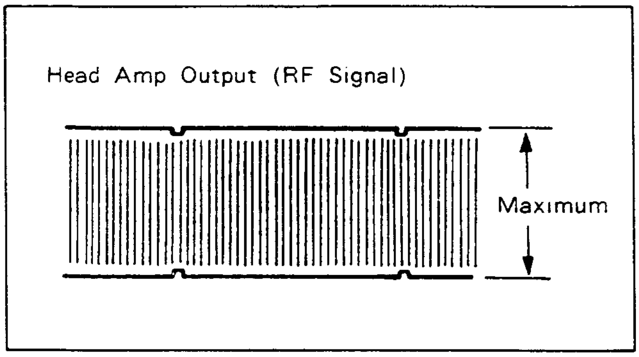
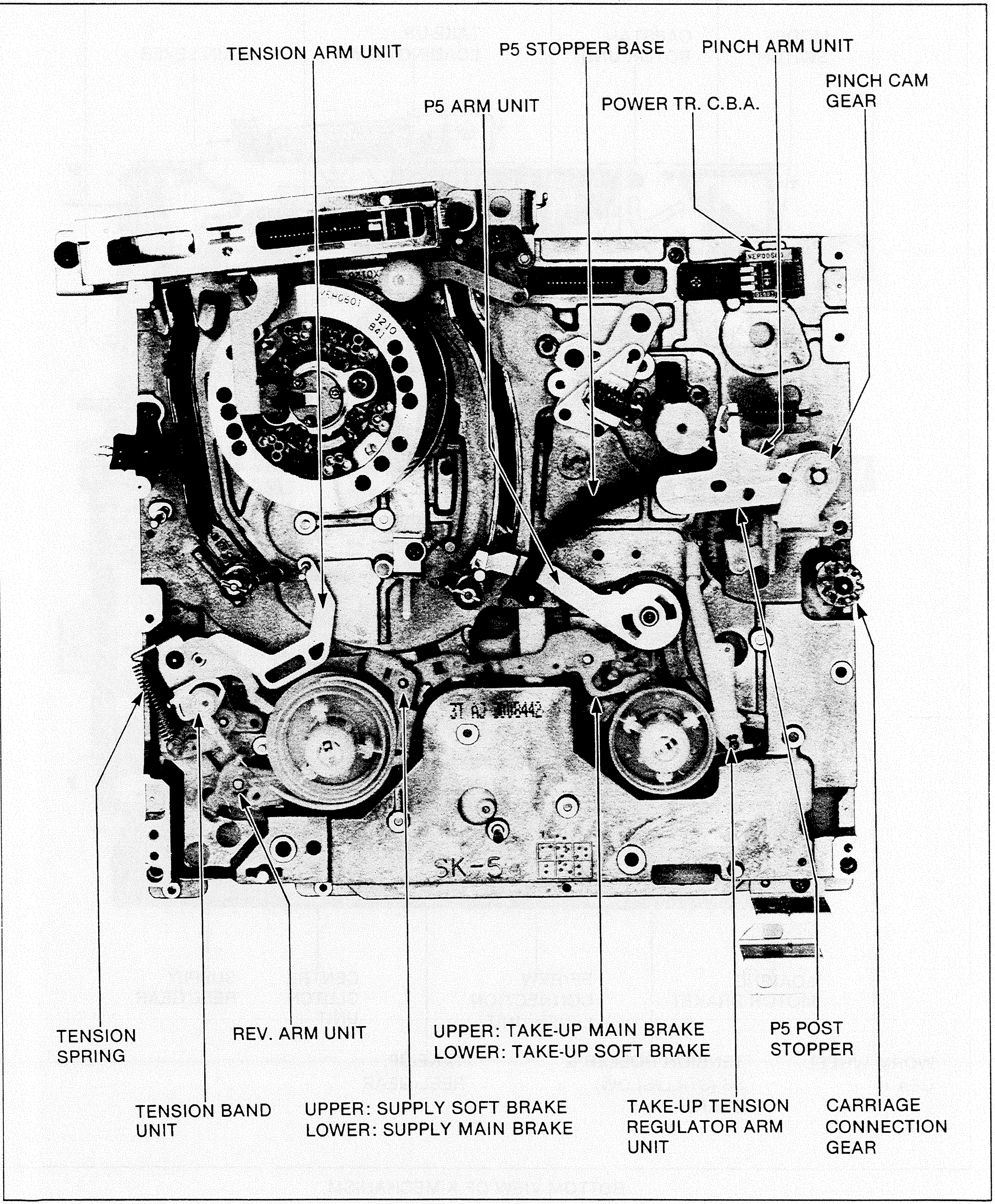

Head Amp Output (RF Signal)
Maximum

Fig. M17

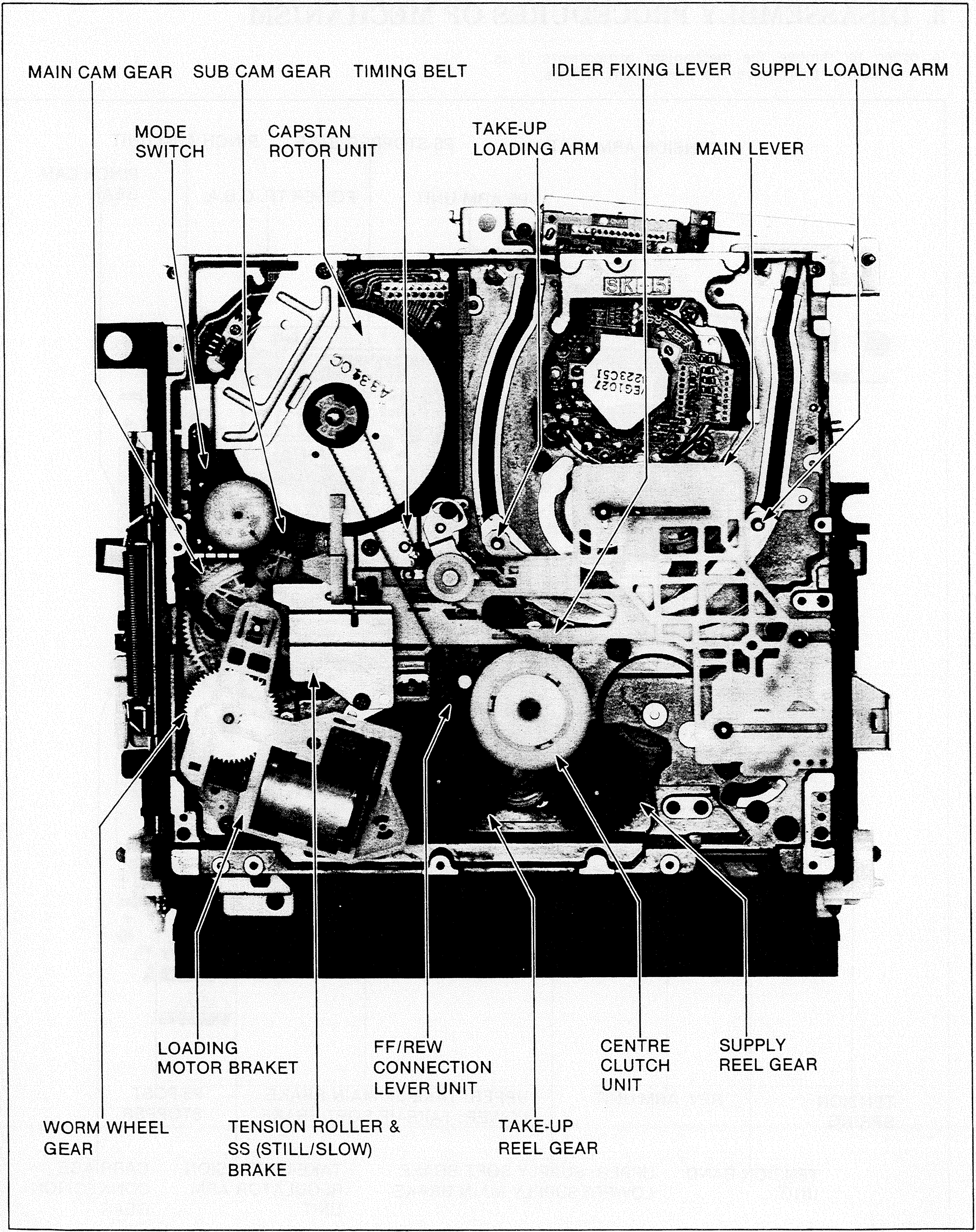
3. DISASSEMBLY PROCEDURES OF MECHANISM

In order to remove the mechanism components it is first necessary to remove the mechanism chassis.



TENSION ARM UNIT
P5 STOPPER BASE
PINCH ARM UNIT
PINCH CAM GEAR
P5 ARM UNIT
POWER TR. C.B.A.
TENSION SPRING
REV. ARM UNIT
UPPER: TAKE-UP MAIN BRAKE
LOWER: TAKE-UP SOFT BRAKE
P5 POST STOPPER
TENSION BAND UNIT
UPPER: SUPPLY SOFT BRAKE
LOWER: SUPPLY MAIN BRAKE
TAKE-UP TENSION REGULATOR ARM UNIT
CARRIAGE CONNECTION GEAR
SK-5

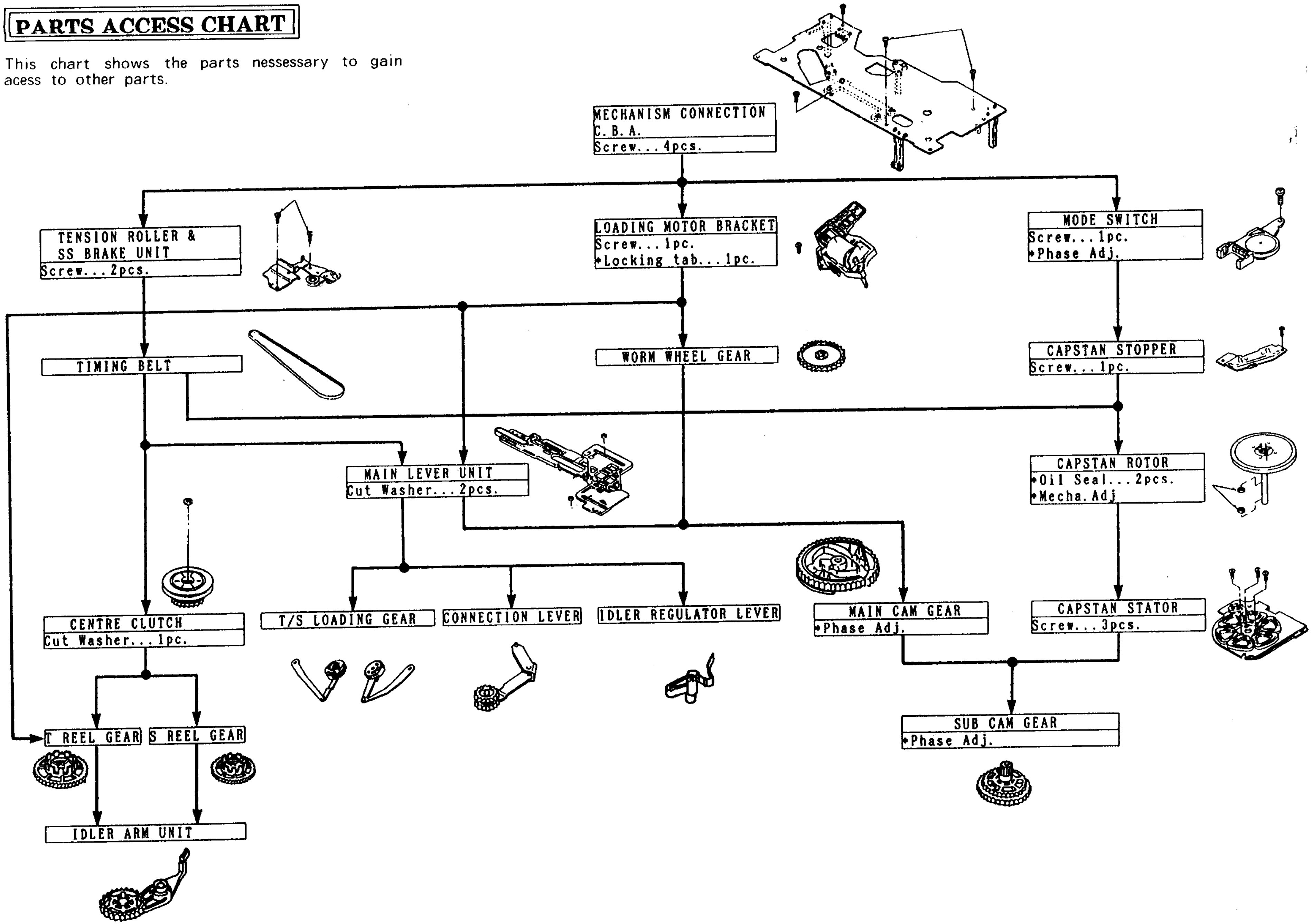
TOP VIEW OF K-MECHANISM


MAIN CAM GEAR
SUB CAM GEAR
TIMING BELT
IDLER FIXING LEVER
SUPPLY LOADING ARM
MODE SWITCH
CAPSTAN ROTOR UNIT
TAKE-UP LOADING ARM
MAIN LEVER
LOADING MOTOR BRAKET
FF/REW CONNECTION LEVER UNIT
CENTRE CLUTCH UNIT
SUPPLY REEL GEAR
WORM WHEEL GEAR
TENSION ROLLER & SS (STILL/SLOW) BRAKE
TAKE-UP REEL GEAR

BOTTOM VIEW OF K-MECHANISM

PARTS ACCESS CHART

This chart shows the parts nessessary to gain acess to other parts.


MECHANISM CONNECTION
C. B. A.
Screw... 4pcs.
TENSION ROLLER &
SS BRAKE UNIT
Screw... 2pcs.
LOADING MOTOR BRACKET
Screw... 1pc.
*Locking tab... 1pc.
MODE SWITCH
Screw... 1pc.
*Phase Adj.
TIMING BELT
WORM WHEEL GEAR
CAPSTAN STOPPER
Screw... 1pc.
MAIN LEVER UNIT
Cut Washer... 2pcs.
CAPSTAN ROTOR
*Oil Seal... 2pcs.
*Mecha. Adj
CENTRE CLUTCH
Cut Washer... 1pc.
T/S LOADING GEAR
CONNECTION LEVER
IDLER REGULATOR LEVER
MAIN CAM GEAR
*Phase Adj.
CAPSTAN STATOR
Screw... 3pcs.
T REEL GEAR
S REEL GEAR
SUB CAM GEAR
*Phase Adj.
IDLER ARM UNIT

3-1. REMOVAL OF THE MECHANISM CHASSIS

1) Remove the 2 screws(A) push the HOLDER PLATE slightly to the rear of mechanism.
2) Remove the screw(B).
3) Disconnect all cables and connectors on the mechanism chassis and connector P6003 on the MAIN C.B.A.(connecting to DEW SENSOR). (Use extreme care when disconnecting the P1508)
4) Lift the mechanism chassis out of the unit.

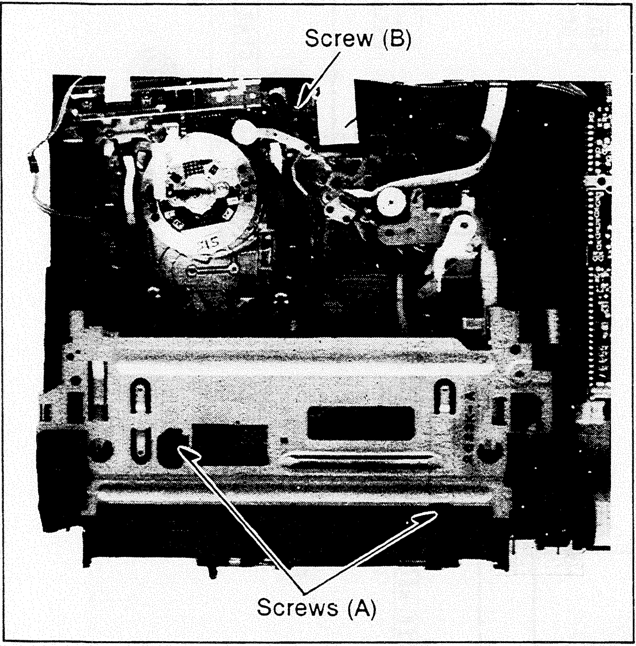

Screw (B)
Screws (A)

Fig. A1

3-2. REMOVAL OF THE MECHANISM CONNECTION C.B.A.

1) Remove the 4 screws(C).
2) Lift up on the C.B.A.

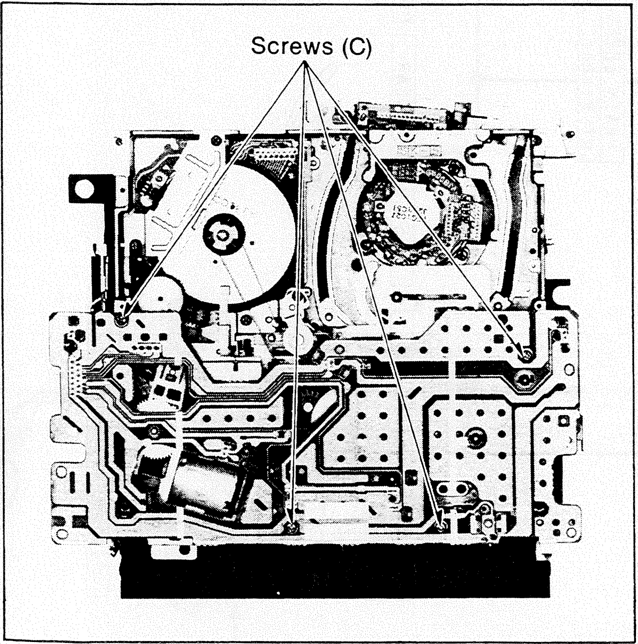


Fig. A2

3-3. REMOVAL OF THE TENSION ROLLER AND SS BRAKE

1) Remove the 2 screws(D).
2) Remove the TENSION ROLLER and the SS BRAKE.

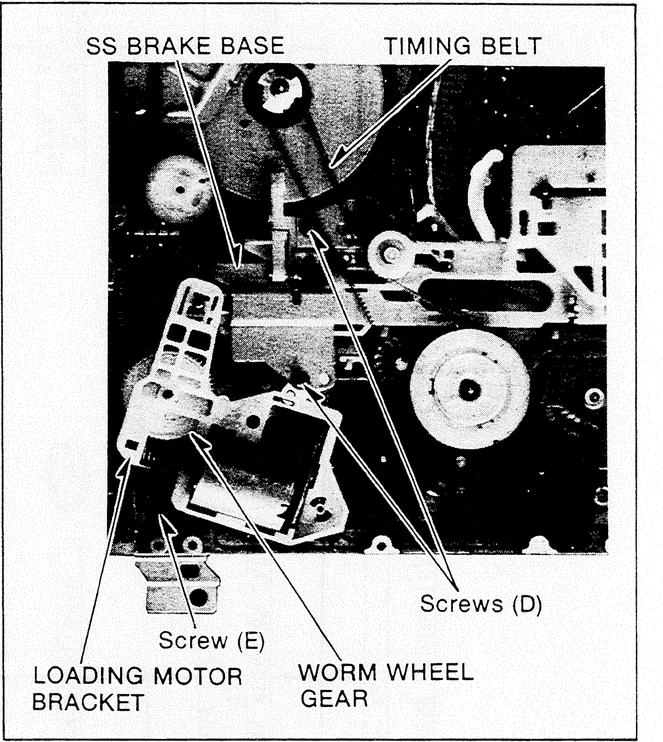

SS BRAKE BASE
TIMING BELT
Screws (D)
Screw (E)
LOADING MOTOR BRACKET
WORM WHEEL GEAR

Fig. A3

3-4. REMOVAL OF THE TIMING BELT

1) Remove the TIMING BELT.

3-5. REMOVAL OF THE LOADING MOTOR BRACKET

1) Remove the screw(E) as shown in Fig.A3.
2) Disconnect the locking tab on the right by pushing the locking tab in as shown in Fig.A4.
3) Lift up on the LOADING MOTOR BRACKET and push the BRACKET towards the MAIN CAM GEAR as shown in Fig.A3.
4) Lift the WORM WHEEL GEAR off the shaft.

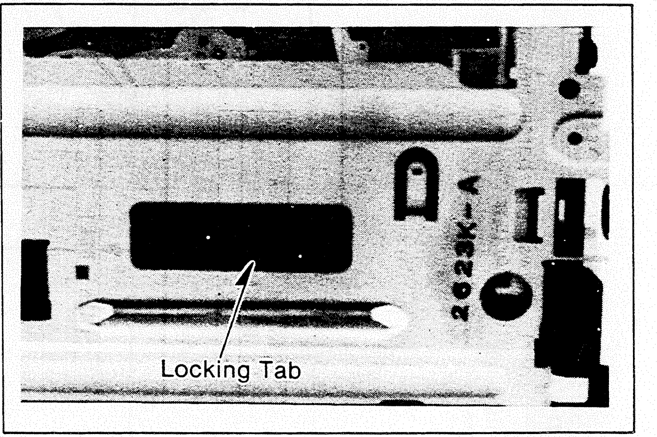

Locking Tab

Fig. A4

3-6. REMOVAL OF THE MAIN LEVER UNIT

1) Remove the 3 cut washers.
2) Remove the MAIN LEVER UNIT.

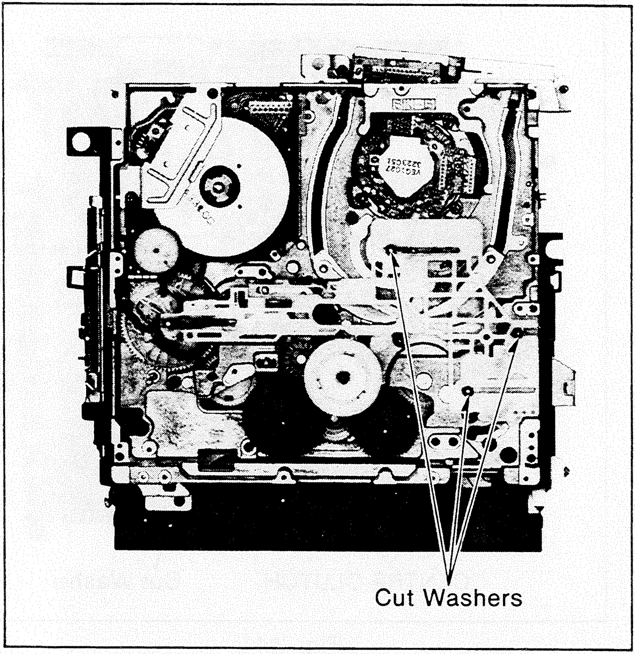

Cut Washers

Fig. A5

3-7. REMOVAL OF THE TAKE-UP AND SUPPLY LOADING ARMS

1) Remove the TAKE-UP and SUPPLY LOADING GEARs by lifting them up off the post.

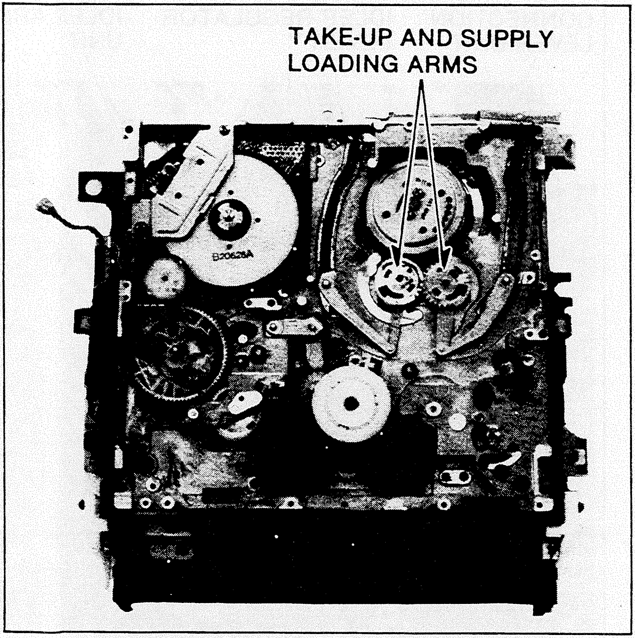

TAKE-UP AND SUPPLY
LOADING ARMS

Fig. A6

3-8. REMOVAL OF THE MODE SWITCH

1) Remove screw(F).
2) Remove the MODE SWITCH.

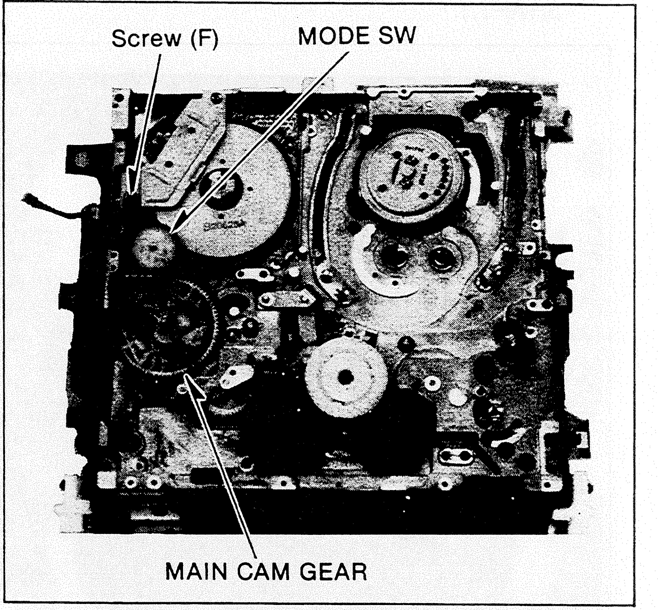

Screw (F)
MODE SW
MAIN CAM GEAR

Fig. A7

3-9. REMOVAL OF THE MAIN CAM GEAR

1) Lift the MAIN CAM GEAR off the shaft.

3-10. REMOVAL OF THE CAPSTAN ROTOR UNIT

1) Remove the screw(G) and remove the CAPSTAN STOPPER as shown in Fig.A8.

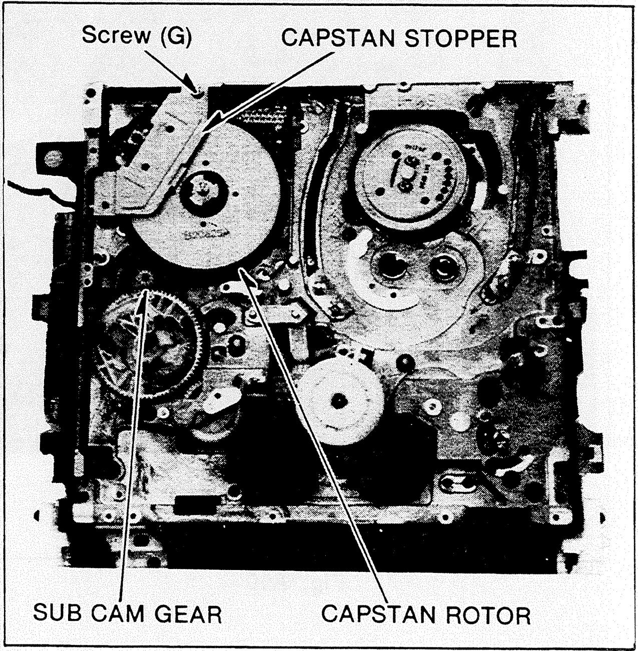

Screw (G)
CAPSTAN STOPPER
SUB CAM GEAR
CAPSTAN ROTOR

Fig. A8

2) Pull out the CAPSTAN ROTOR. (When the CAPSTAN ROTOR is removed, 2 OIL SEALs are left in the CAPSTAN ROTOR HOUSING Fig.A9.. To avoid losing the OIL SEALs, place them back on the CAPSTAN SHAFT.)

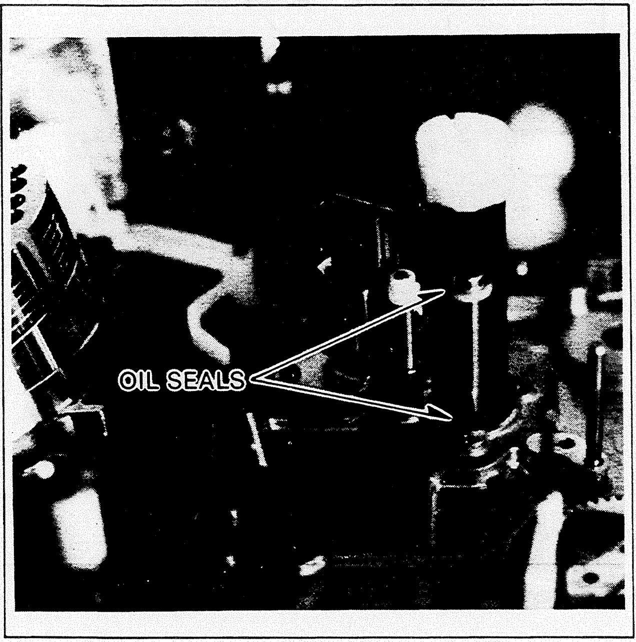


Fig. A9

3) Remove the 3 screws(H) and remove the CAPSTAN STATOR as shown in Fig.A10.

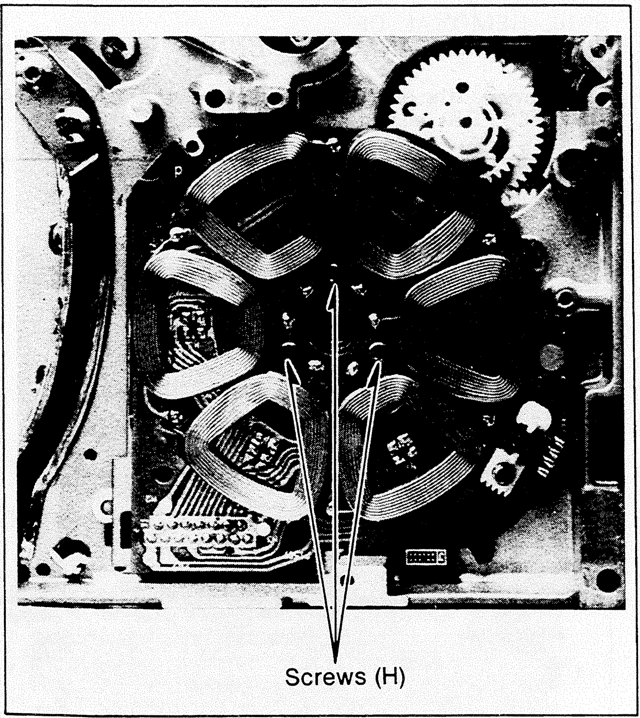


Fig. A10

3–11. REMOVAL OF THE SUB CAM GEAR

1) Lift the SUB CAM GEAR off the shaft.

3–12. REMOVAL OF THE CENTRE CLUTCH

1) Remove the cut washer.
2) Remove the CENTRE CLUTCH.

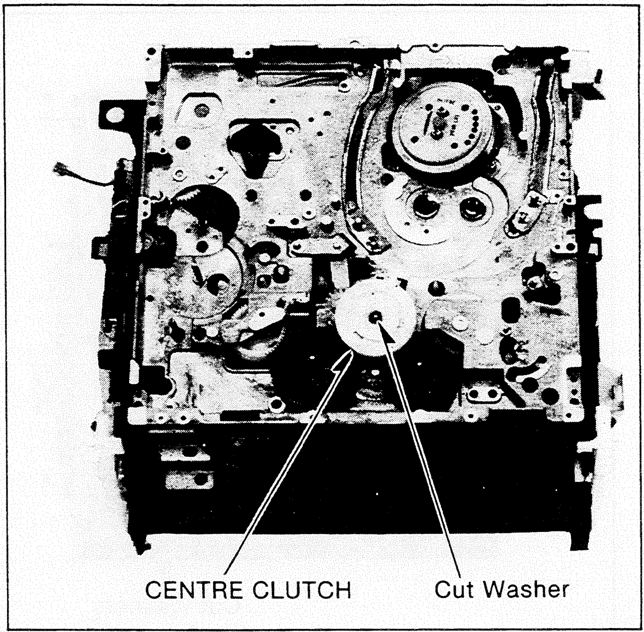

CENTRE CLUTCH
Cut Washer

Fig. A11

3–13. REMOVAL OF THE TAKE–UP AND SUPPLY REEL GEARS

1) Unlock the locking tab and lift up on the reel.

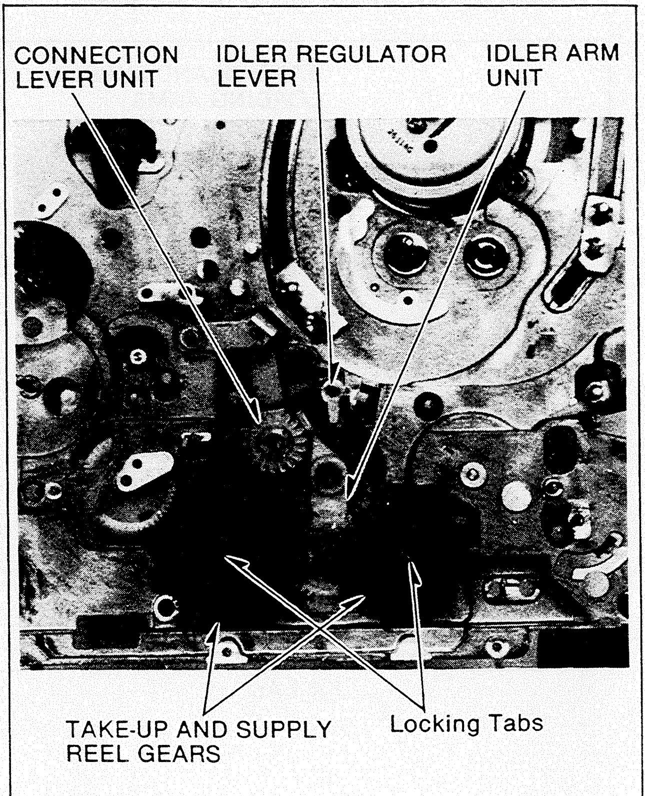

CONNECTION LEVER UNIT
IDLER REGULATOR LEVER
IDLER ARM UNIT
TAKE-UP AND SUPPLY REEL GEARS
Locking Tabs

Fig. A12

3-14. REMOVAL OF THE IDLER ARM UNIT, CONNECTION LEVER UNIT AND IDLER REGULATOR LEVER

1) Lift the IDLER ARM UNIT and CONNECTION LEVER UNIT off the shaft.
2) Remove the IDLER REGULATOR LEVER.

3-15. REMOVAL OF THE TOP PLATE

1) Push the locking tabs from the outer side to inside as shown in Fig.A13.
2) Lift up on the TOP PLATE.

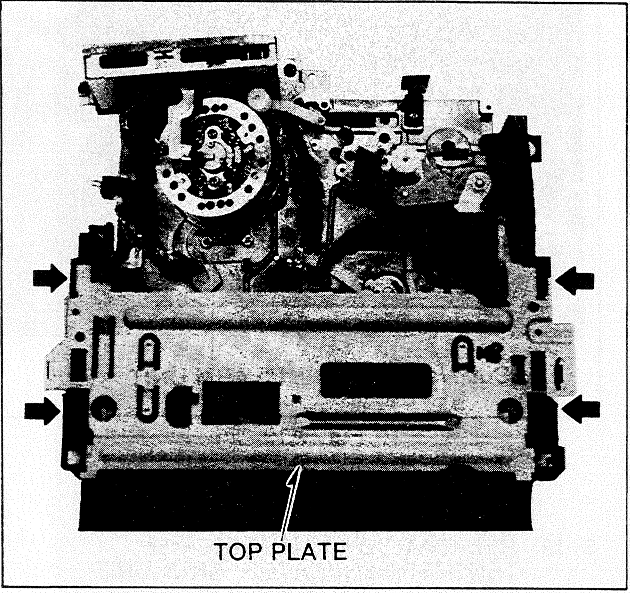


Fig. A13

NOTE:
If locking tab is broken, TOP PLATE can be installed by screws(XTB26+8G) as shown in Fig.A14.

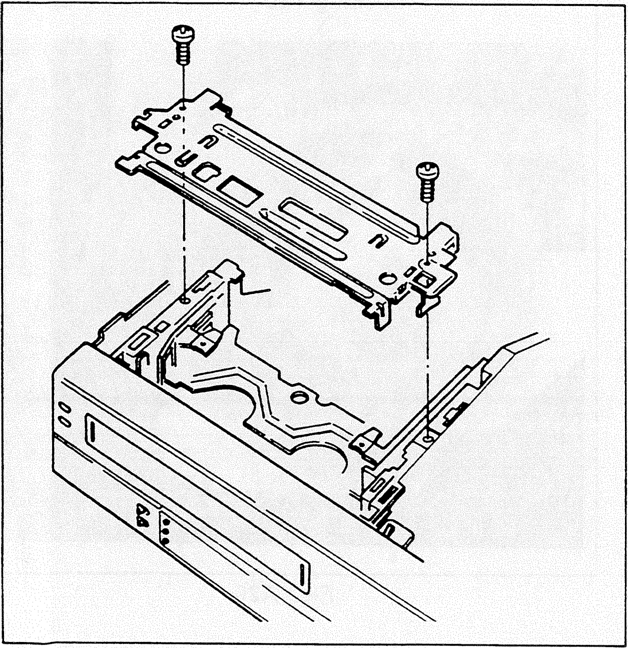


Fig. A14

3-16. REMOVAL OF THE CASSETTE HOLDER

1) Slide the HOLDER PLATE in the rear and lift up.
2) Remove the 4 screws(I).
3) Remove the CASSETTE HOLDER.

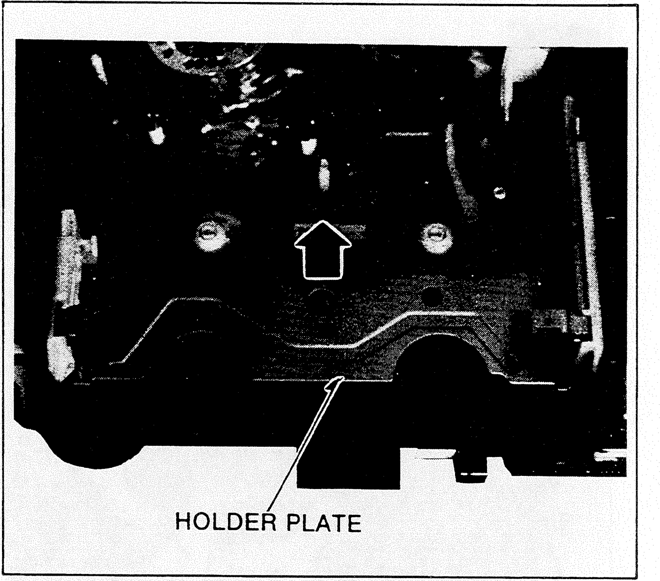


Fig. A15

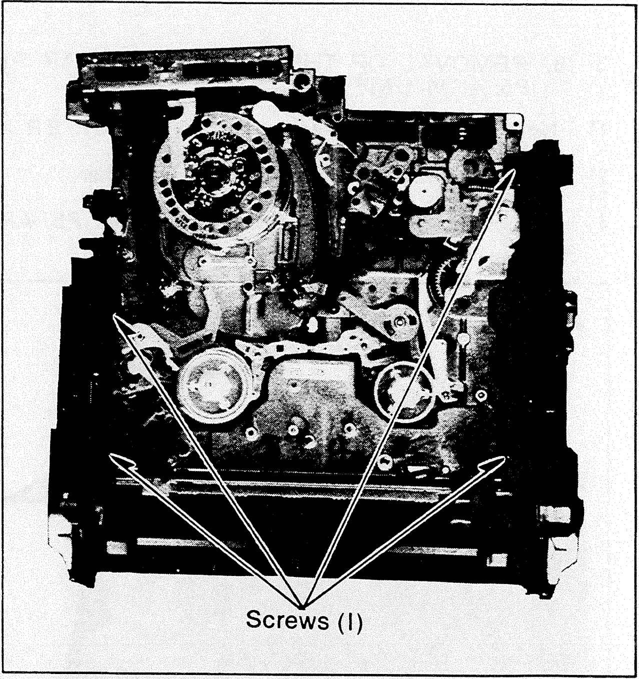


Fig. A16

3-17. REMOVAL OF THE PINCH ARM UNIT

1) Unlock the locking tab on the OPENER PIECE and remove it from the shaft.
2) Remove the PINCH ARM UNIT from the shaft.

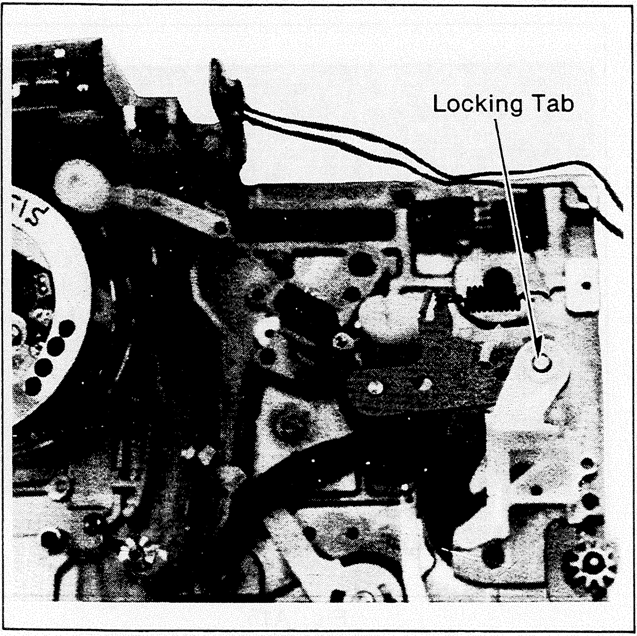

Locking Tab

Fig. A17

3-18. REMOVAL OF THE PINCH CAM GEAR AND P5 ARM UNIT

1) Unlock the locking tab of the P5 STOPPER and remove the P5 STOPPER.
2) Remove the screw(J) and the cut washer.
3) Remove the P5 STOPPER BASE.
4) Remove the PINCH CAM GEAR and P5 ARM UNIT.

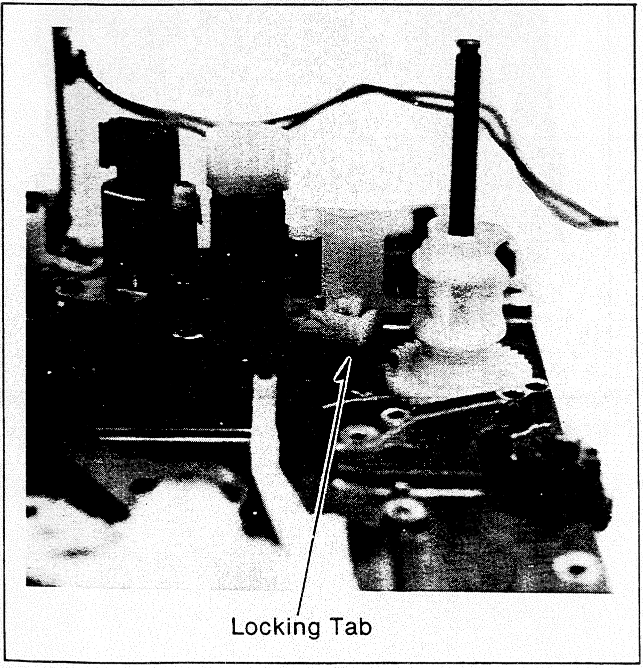

Locking Tab

Fig. A18

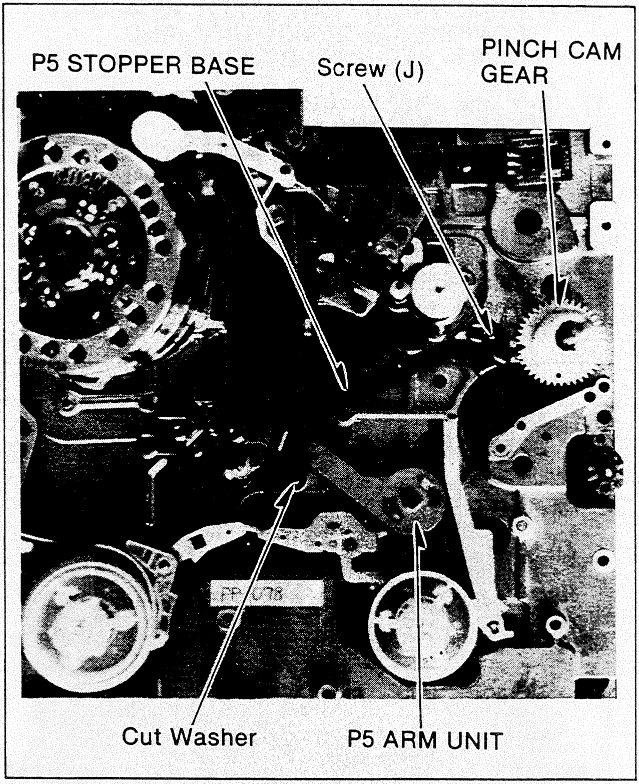

P5 STOPPER BASE
Screw (J)
PINCH CAM GEAR
Cut Washer
P5 ARM UNIT

Fig. A19

3-19. REMOVAL OF THE TAKE-UP TENSION REGULATOR ARM UNIT

1) Disconnect the spring from the bottom of the chassis.
2) Unlock the locking tab and lift the TAKE-UP TENSION REGULATOR ARM UNIT off the shaft.

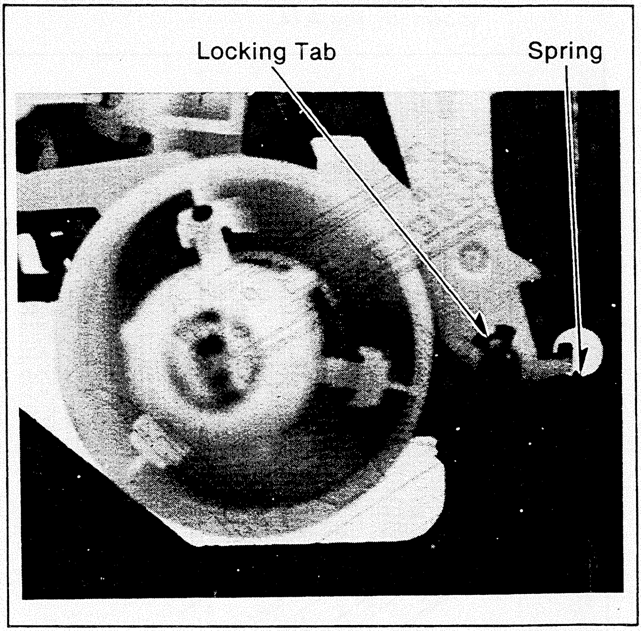

Locking Tab
Spring

Fig. A20

3–20. REMOVAL OF THE CARRIAGE CONNECTION GEAR

1) Remove the cut washer.
2) Lift the CARRIAGE CONNECTION GEAR off the shaft.

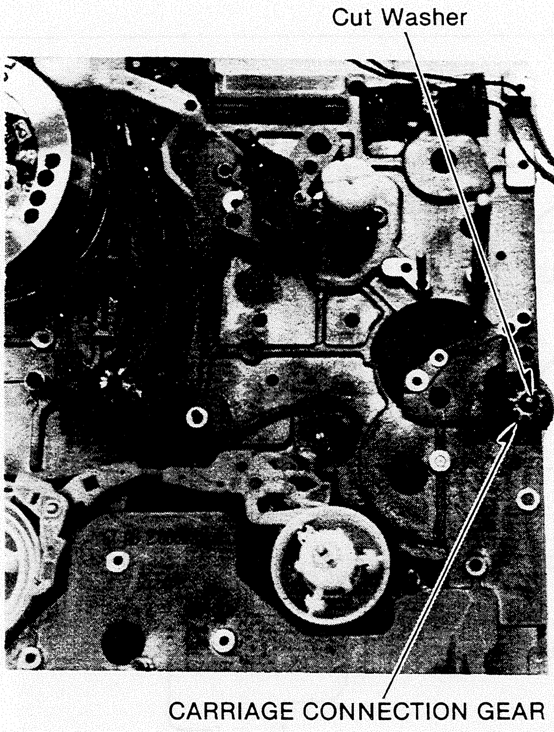

Cut Washer
CARRIAGE CONNECTION GEAR

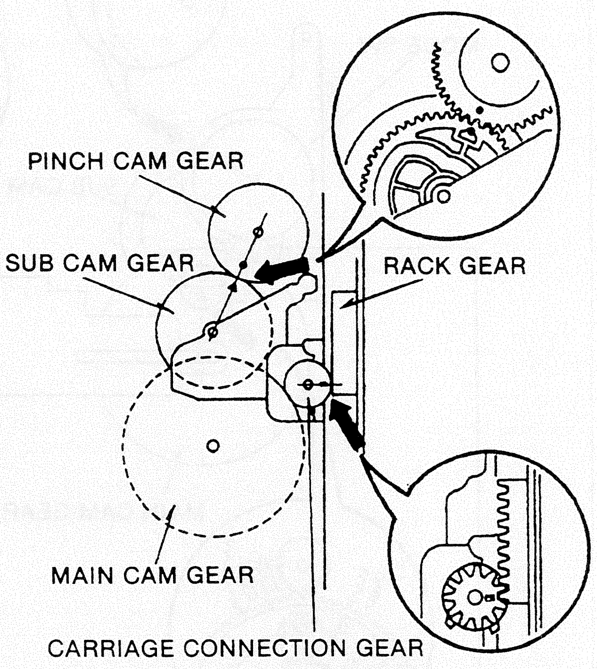
Fig. A21

4. ASSEMBLY PROCEDURES OF MECHANISM

4–1. VIEW OF PHASE ALIGNMENT

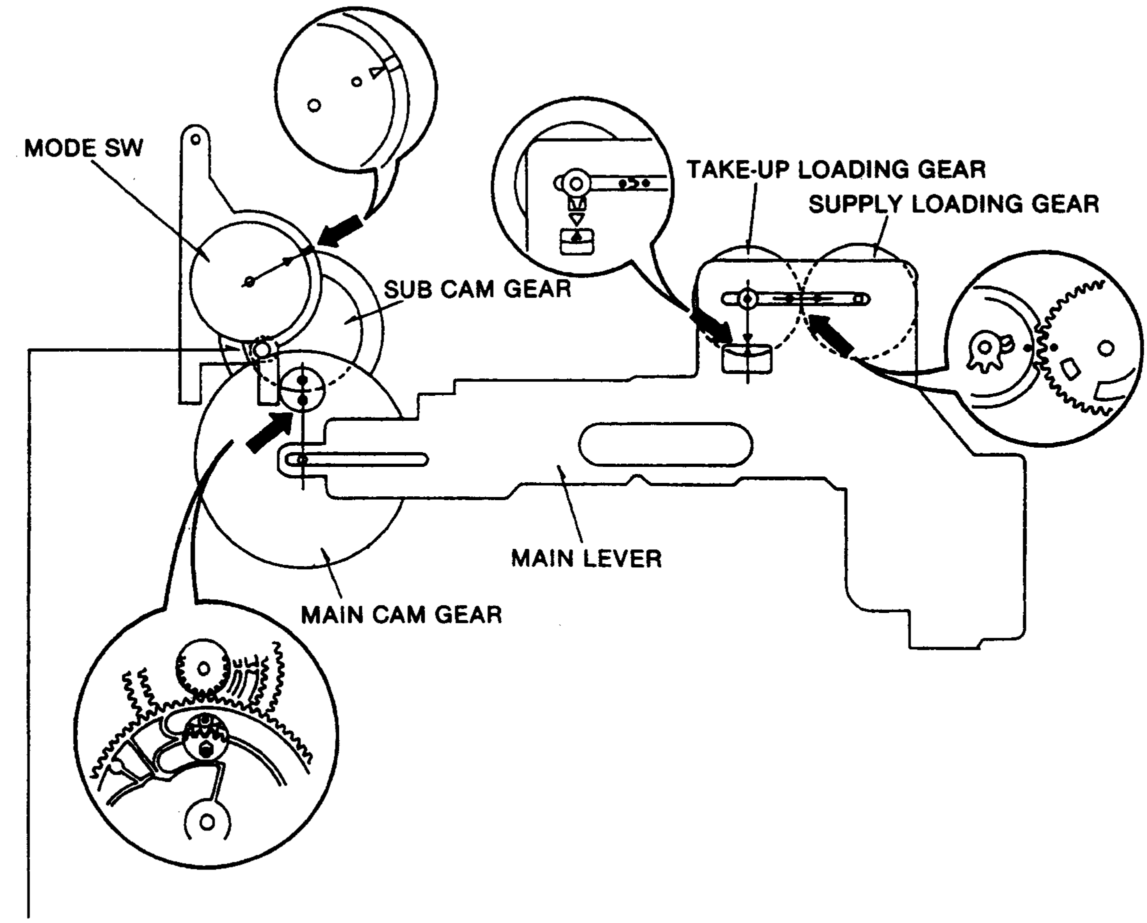
The gear phase alignment is performed in the cassette down position and is crucial for the K–Mechanism to operate correctly.

1) Top View of Gear Phase Alignment Marks.
There are alignment marks on the Pinch Cam Gear and Sub Cam Gear. There is one alignment mark on the carriage connection gear.


PINCH CAM GEAR
SUB CAM GEAR
RACK GEAR
MAIN CAM GEAR
CARRIAGE CONNECTION GEAR

Top View of Gear Phase Alignment

2) Bottom View of Gear Phase Alignment Marks. There are alignment marks on Take–up Loading Gear and Supply Loading Gear. There is an additional mark on the Take–up Loading Gear that aligns with the mark on the main lever. There are alignment marks on the Main Cam Gear and the Sub Cam Gear. The mode switch gear mark aligns with a notch in the mode switch frame.


MODE SW
TAKE-UP LOADING GEAR
SUPPLY LOADING GEAR
SUB CAM GEAR
MAIN LEVER
MAIN CAM GEAR

There is a hole on the Sub–Cam Gear and a hole on the chassis that are used for alignment reference.

Bottom View of Gear Phase Alignment

4–2. ASSEMBLY OF THE CARRIAGE CONNECTION

1) Install the CARRIAGE CONNECTION GEAR as shown in Fig.A21.
2) Install the cut washer.

4–3. ASSEMBLY OF THE TAKE-UP TENSION REGULATOR ARM UNIT, P5 ARM UNIT PINCH CAM GEAR, P5 STOPPER BASE, P5 STOPPER, PINCH CAM UNIT AND OPENER PIECE

1) Install the TAKE–UP TENSION REGULATOR ARM UNIT.
2) Hook the spring to hole on the chassis.
3) Install the P5 ARM UNIT and PINCH CAM GEAR.
4) Install the P5 STOPPER BASE with cut washer and screw(J).
5) Install the P5 STOPPER, PINCH ARM UNIT and OPENER PIECE.

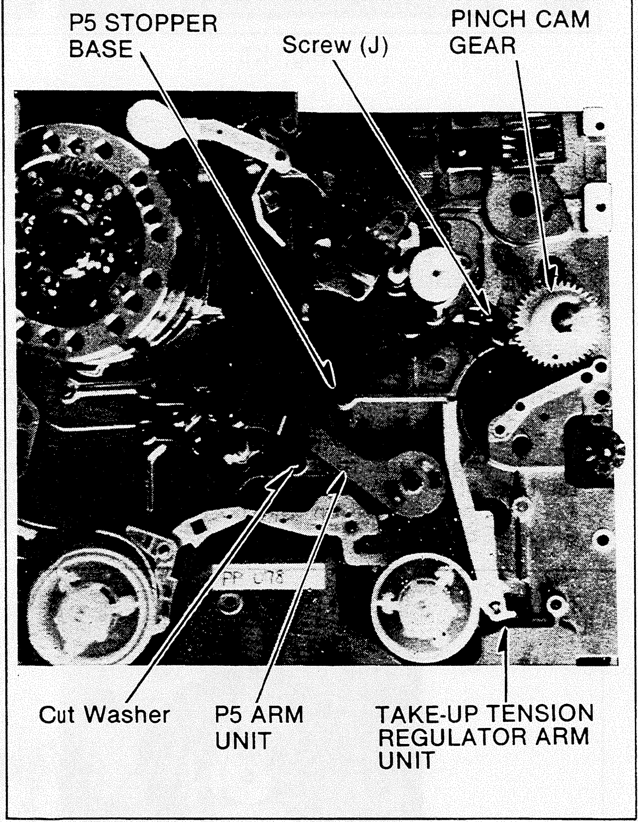

P5 STOPPER BASE
Screw (J)
PINCH CAM GEAR
Cut Washer
P5 ARM UNIT
TAKE-UP TENSION REGULATOR ARM UNIT

Fig. K1

4–4. ASSEMBLY OF THE IDLER ARM UNIT, TAKE–UP AND SUPPLY REEL GEARS, IDLER REGULATOR LEVER, CONNECTION LEVER UNIT AND CENTRE CLUTCH

1) Install the IDLER UNIT, TAKE–UP and SUPPLY REEL GEARs, IDLER REGULATOR LEVER and CONNECTION LEVER UNIT.
2) Install the CENTRE CLUTCH with cut washer.

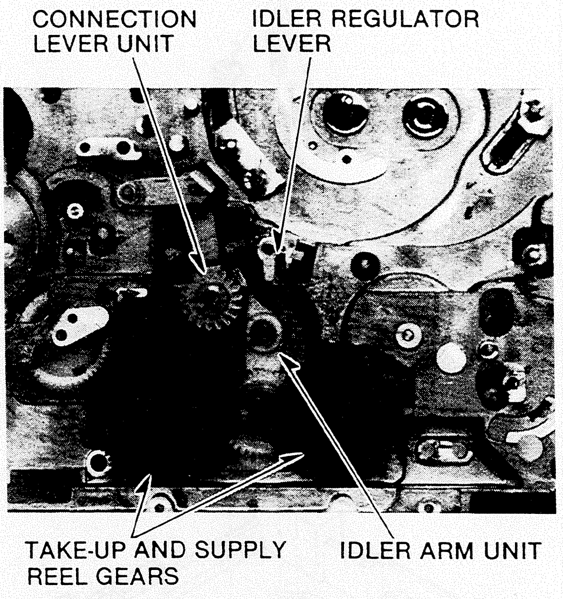

CONNECTION LEVER UNIT
IDLER REGULATOR LEVER
TAKE-UP AND SUPPLY REEL GEARS
IDLER ARM UNIT

Fig. K2

4–5. ASSEMBLY OF THE SUB CAM GEAR

The SUB CAM GEAR is used for the reference of the phase.

1) Install the SUB CAM GEAR so that the chassis hole aligns with hole in the SUB CAM GEAR. Also, the hole in the outer gear of the SUB CAM GEAR must align with the hole in the PINCH CAM GEAR. The boss on the PINCH ARM must be installed in the cam groove of the SUB–CAM GEAR. This is used for the reference of the phase. To aid installation of the SUB–CAM GEAR insert a fixing pin into the holes of the SUB–CAM GEAR and the chassis.

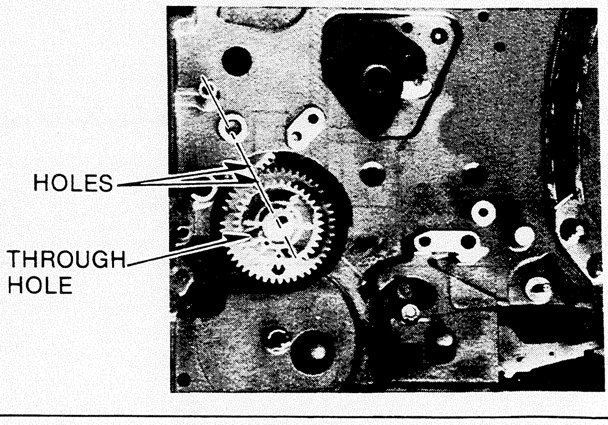

HOLES
THROUGH HOLE

Fig. K3

4–6. ASSEMBLY OF THE STATOR UNIT

1) Place the STATOR UNIT into position. Loosely reinstall the 3 screws that secure the STATOR and HOUSING UNIT. Next insert the CENTERING PIN then tighten the 3 screws as shown in Fig.K4.

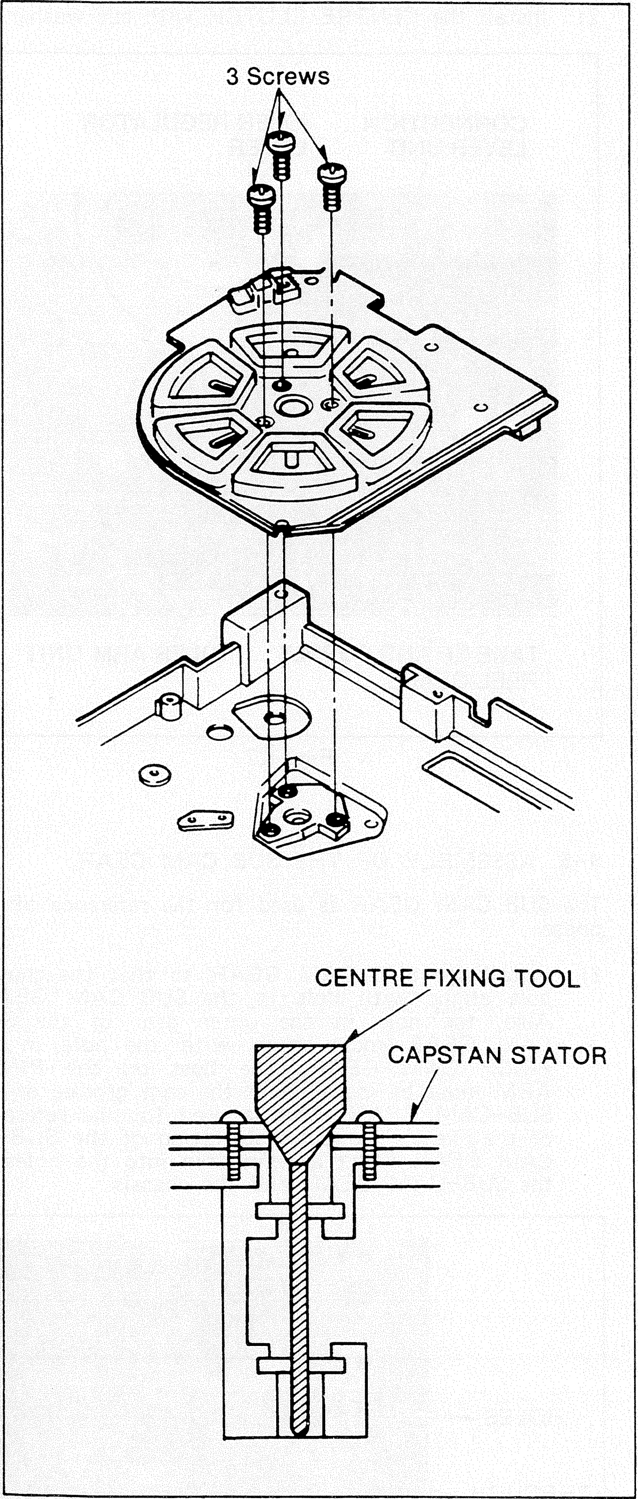


Fig. K4

2) Remove the oil seal from the ROTOR SHAFT Partially install the ROTOR SHAFT into the lower position and install the oil seal. Insert the ROTOR SHAFT further into the housing and install the second OIL SEAL in the upper position. Push the lower OIL SEAL down the ROTOR SHAFT into the housing.

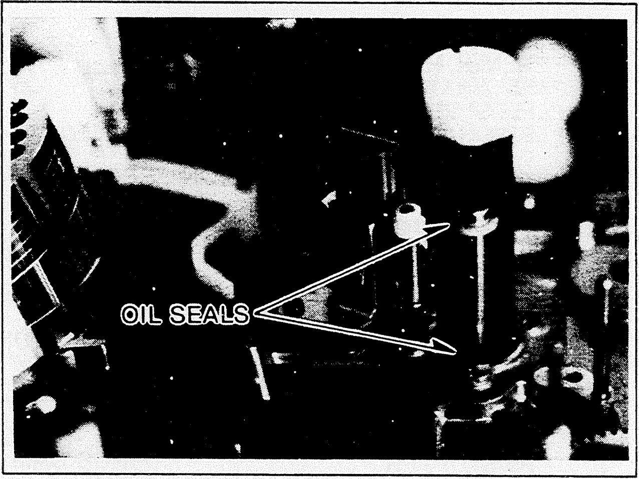


Fig. K5

3) Clean the ROTOR SHAFT after replacement. Reinstall the ROTOR STOPPER and the screw on the top side.

4–7. ASSEMBLY OF THE MAIN CAM GEAR

NOTE:
Before installing the MAIN CAM GEAR, set the CONNECTION GEAR so that the side of the gear with no teeth is towards the MAIN CAM GEAR.

1) Install the MAIN CAM GEAR so that the hole marker aligns with the SUB–CAM GEAR and insert the boss of the TAKE–UP TENSION REGULATOR ARM into the slot on the bottom of the MAIN CAM GEAR.

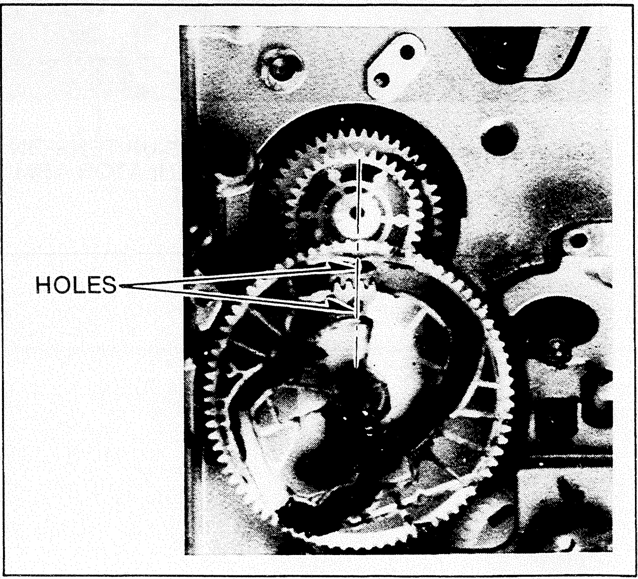


Fig. K6

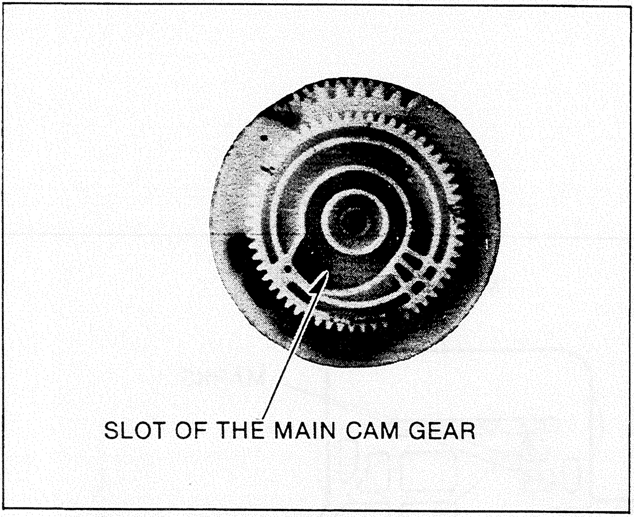


Fig. K7

4–8. ASSEMBLY OF THE MODE SW

1) Align the mark on the MODE SWITCH GEAR with the notch on the MODE SWITCH FRAME.
2) Install the MODE SWITCH taking care that all the phase alignments are correct. Check the CAM GEAR timing by rotating the MAIN CAM GEAR.
3) Install the screw(K) the retains the MODE SWITCH and ROTOR STOPPER.

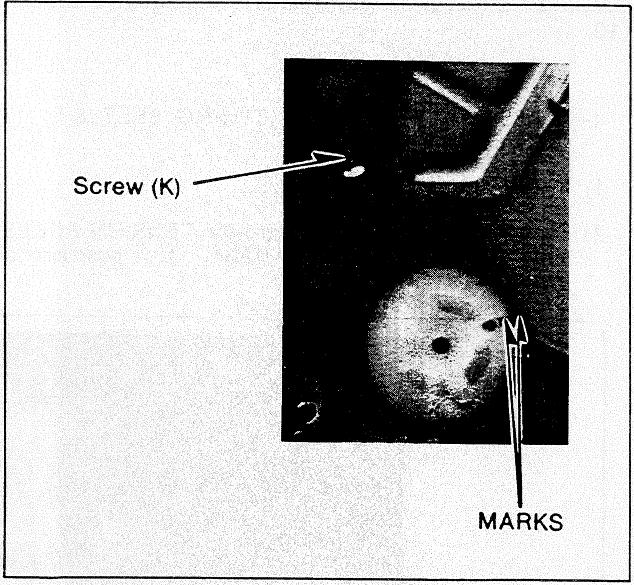


Fig. K8

4–9. ASSEMBLY OF THE T & S LOADING ARMS

1) Set the shaft holders to the unloaded position. Take care that the P5 POST does not interfere with the P3 Post or prevent it from going to the unloaded position. The TENSION ARM must be set to the position that will allow the P2 POST to move back to the unloaded position.

2) Install the TAKE–UP LOADING ARM and SUPPLY LOADING ARM, aligning the marks on the both GEARS.

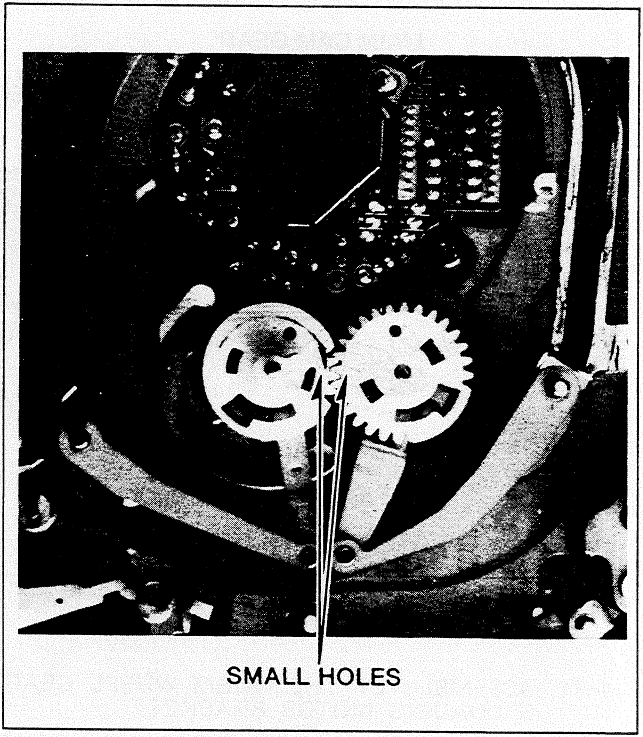


Fig. K9

4-10. ASSEMBLY OF THE MAIN LEVER

1) Install the MAIN LEVER ARM checking that the boss arms and shafts are in the correct position and the mark on the MAIN LEVER ARM is aligned with mark on the TAKE-UP LOADING GEAR.

2) Install the 3 cut washers.

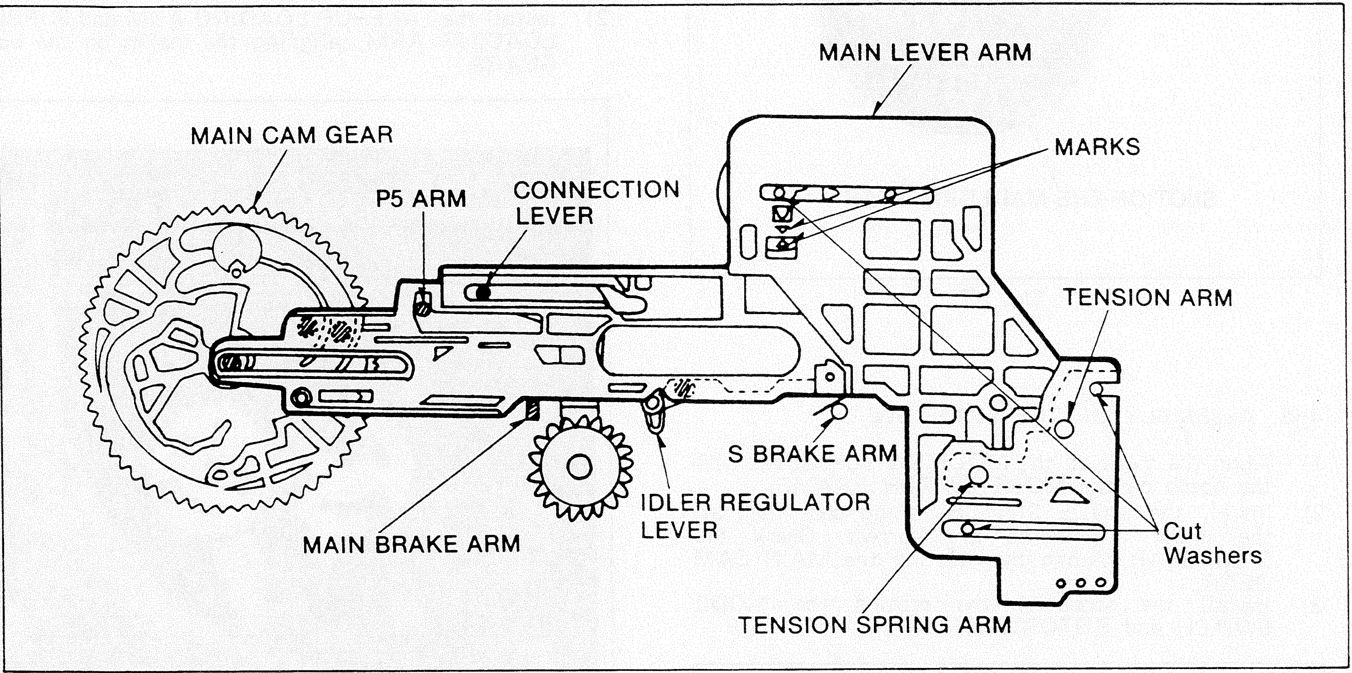

MAIN LEVER ARM
MAIN CAM GEAR
MARKS
P5 ARM
CONNECTION LEVER
TENSION ARM
S BRAKE ARM
IDLER REGULATOR LEVER
MAIN BRAKE ARM
Cut Washers
TENSION SPRING ARM

Fig. K10

4-11. ASSEMBLY OF THE WORM WHEEL GEAR & LOADING MOTOR BRACKET

1) Reinstall the WORM WHEEL GEAR.

2) Install the LOADING MOTOR BRACKET. First set the BRACKET over the MAIN CAM GEAR shaft and slide until it locks. Then push down on the BRACKET until the locking tab is connected to the chassis. Reinstall the screw(L).

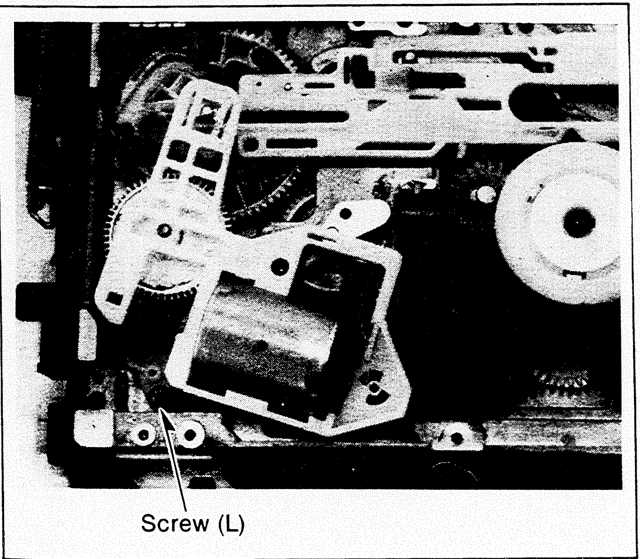


Fig. K11

4-12. ASSEMBLY OF THE TIMING BELT & SS BRAKE BASE

1) Install the TIMING BELT.

2) Put the TIMING BELT onto the TENSION ROLLER, slide the SS BRAKE BASE into position and install 2 screws(M).

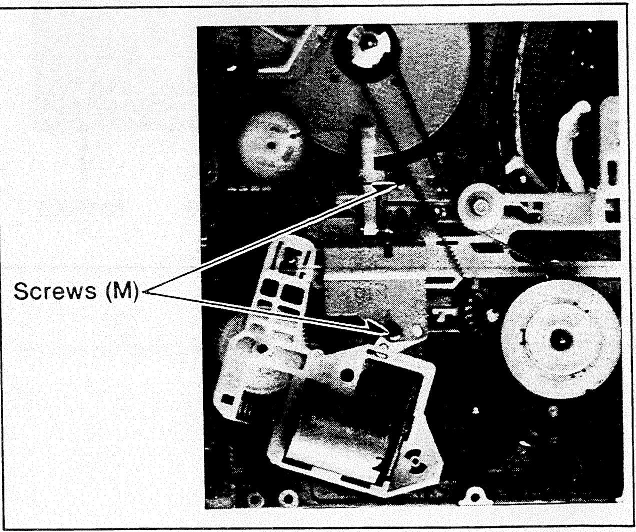


Fig. K12

4–13. ASSEMBLY OF THE PINCH ARM UNIT

1) Install the OPENER PIECE by inserting the boss into the PINCH ARM UNIT. Push down until the lock engages the shaft.

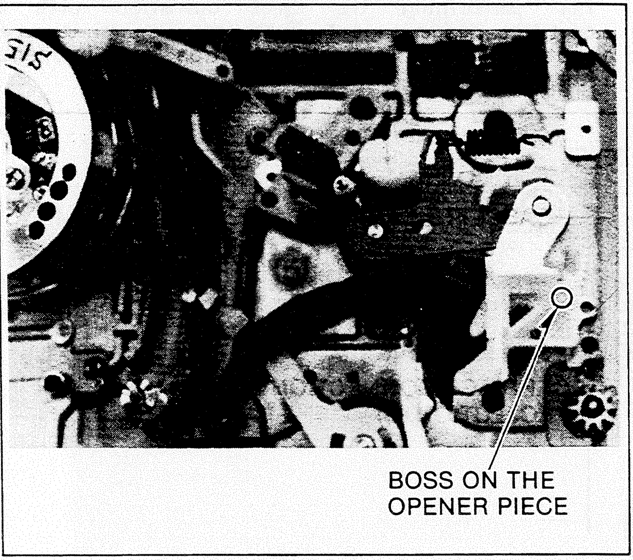


Fig. K13

4–14. CHECKING THE MECHANISM MOVEMENT

1) Check by moving the mechanism by hand then re–check using a battery to power the motor.

2) Rotate the LOADING MOTOR by hand in the loading direction while checking the movement of each gear. If the mechanism operates correctly when moved by hand, connect a battery to the LOADING MOTOR and re–check the movement of each gear as shown in Fig.S1/S2/S3.

3) Connect the battery to check the loading operation and then reverse the battery connection to check the unloading operation.

4) Reverse the battery to move the mechanism to the cassette down position.

4–15. ASSEMBLY OF THE CASSETTE HOLDER

1. ASSEMBLE A CASSETTE HOLDER AS A UNIT COMPLETE UNIT

1) Put the CASSETTE HOLDER into the cassette up condition by moving the WIPER ARM.
2) Turn the LOADING MOTOR by hand in the unloading direction until the CARRIAGE CONNECTION GEAR and the MODE SW is eject position as shown in Fig.K14/K15

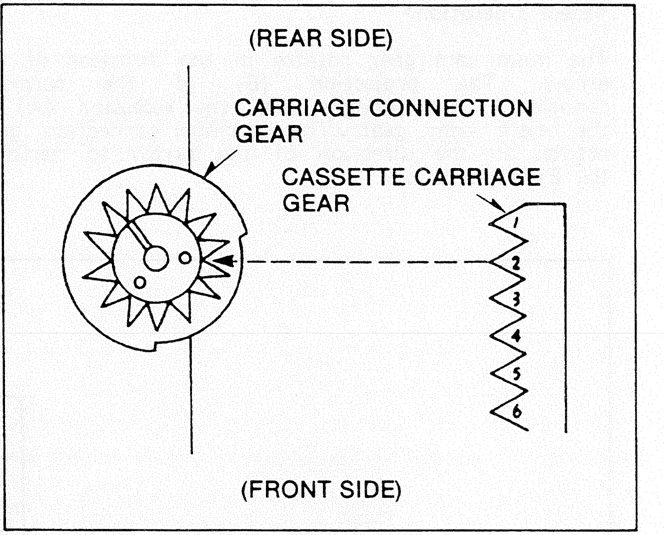


Fig. K14

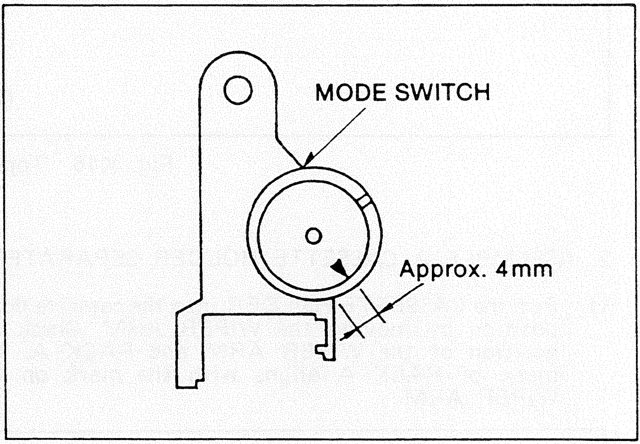


Fig. K15

3) Install the CASSETTE HOLDER UNIT as shown in Fig.K14.
4) Install 4 screws to attach the CASSETTE HOLDER UNIT.

\<Eject Operation\>

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

\<NOTE\>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate to the carriage connection gear by hand in the direction of the arrow.

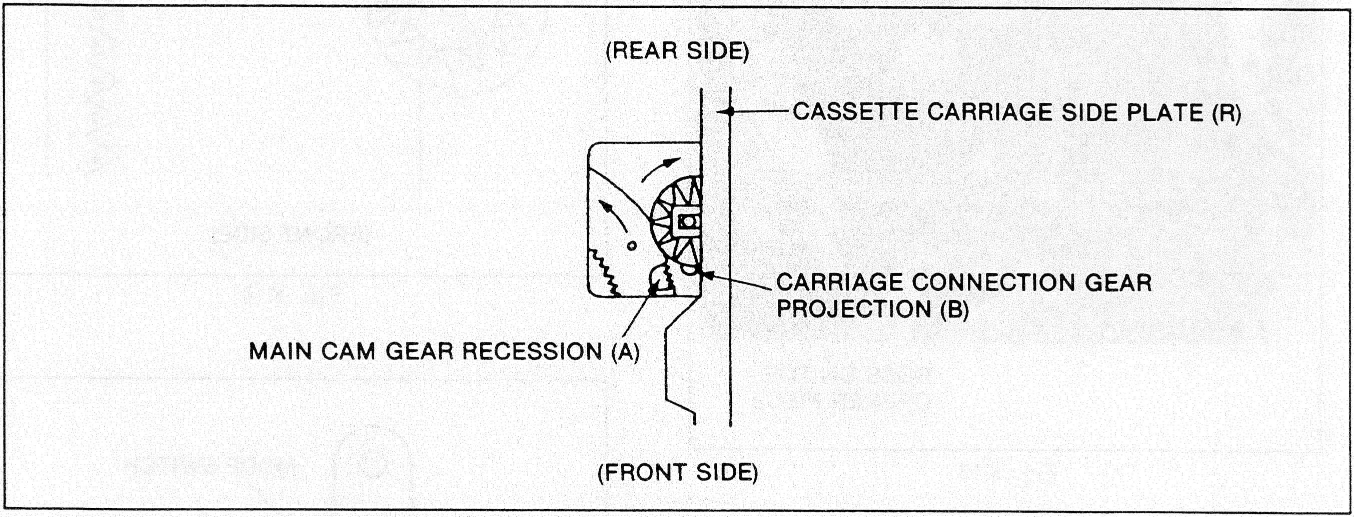

(REAR SIDE)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR
PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(FRONT SIDE)

Fig. K16 Top View of Eject Operation

2. ASSEMBLE A CASSETTE HOLDER SEPARATELY

1) Put the CASSETTE HOLDER into the cassette down position by moving the WIPER ARM. Check the position of the WIPER ARM and RACK A. The mark of RACK A aligns with the mark on the WIPER ARM.

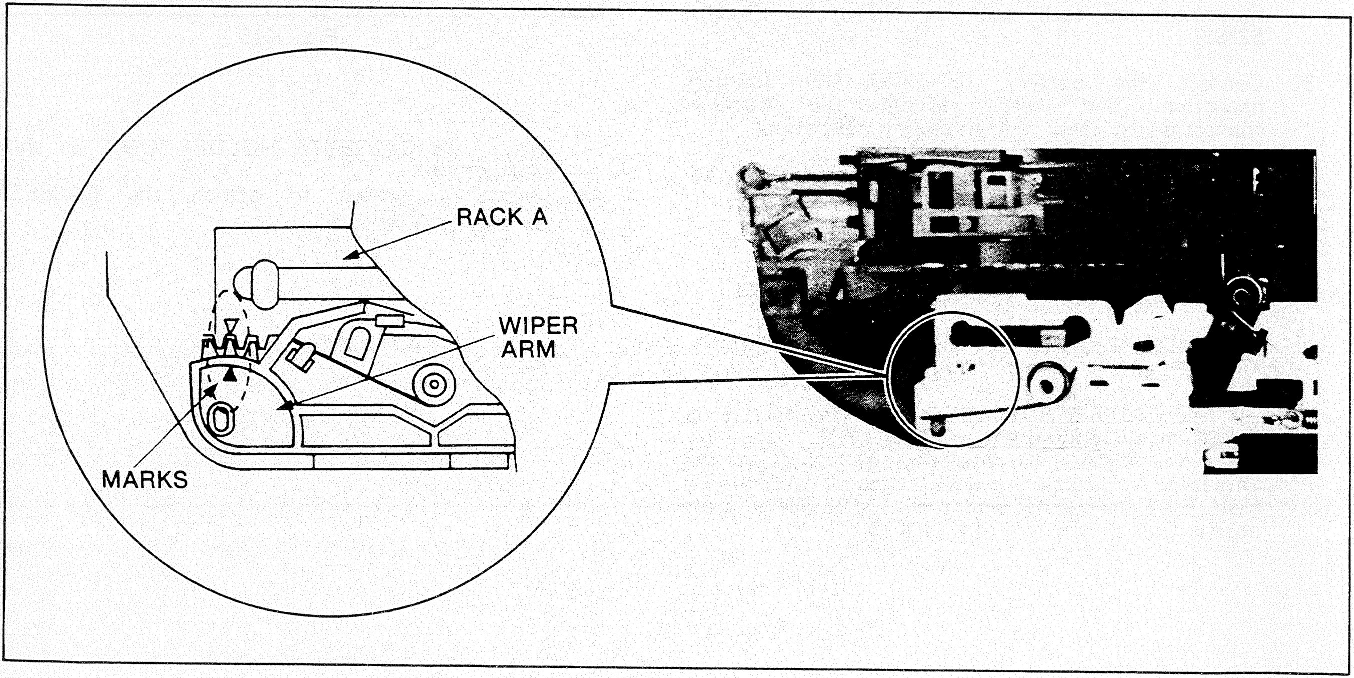

RACK A
WIPER
ARM
MARKS

Fig. K17

2) Install the SIDE PLATE ASSEMBLY so that the first gear of RACK B aligns with the mark on the CARRIAGE CONNECTION GEAR.

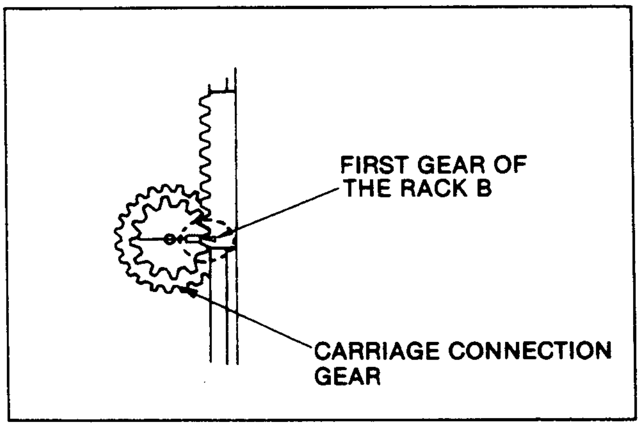


Fig. K18

3) Install 4 screws to attach the SIDE PLATE ASSEMBLY.

4) Turn the LOADING MOTOR by hand to the cassette up position while pushing the WIPER ARM to the cassette up position.

5) Insert the 5 posts on the CASSETTE HOLDER into the Side Plate.

6) Set the TOP PLATE on the Side Plate then push it down until it locks.

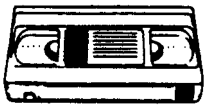
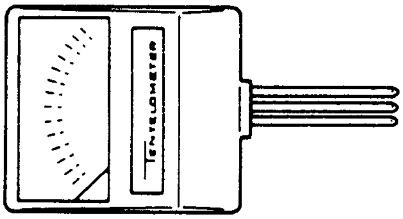
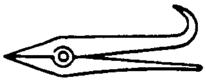
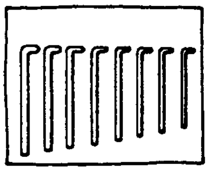
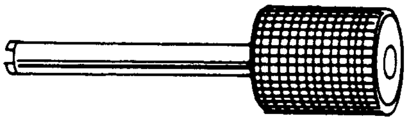
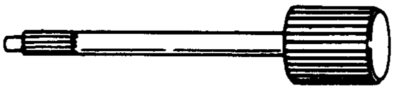
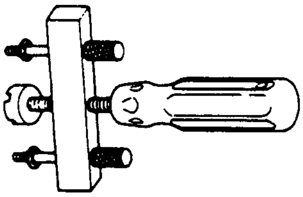
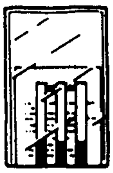
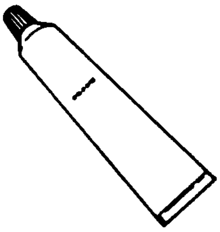
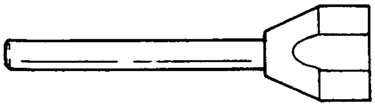
4–16. ASSEMBLY OF THE MECHANISM CHASSIS

1) Install the MECHANISM CONNECTION C.B.A. onto the chassis. Then install the chassis into the frame and connect all the cables and connectors.

2) Clean the DD CYLINDER after reinstallation.

3) Insert a cassette and adjust the tape travel and check all the operation modes.

Servicing Fixtures & Tools

VFJ8125H3F PAL VHS Alignment Tape VFM8080HQFP NTSC VHS Alignment Tape 	VFK0132 Back Tension Meter (Tentelometer, Made in U.S.A.)  	VFK0335 Retaining Ring Remover (3mm/4mm) 
VFK0326 Hex. Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 	VFK0329 Post Adjustment Screw Driver 	VFK0330 Fine Adjustment Gear Driver 
VFK0341 Upper Cylinder Remover 	VFK27 Hand Cleaning Stick 	MOR265 Morlytone Grease 
VFK0851 CENTRE FIXING TOOL 		

5. PARTS CHANGE

5-1. Parts List

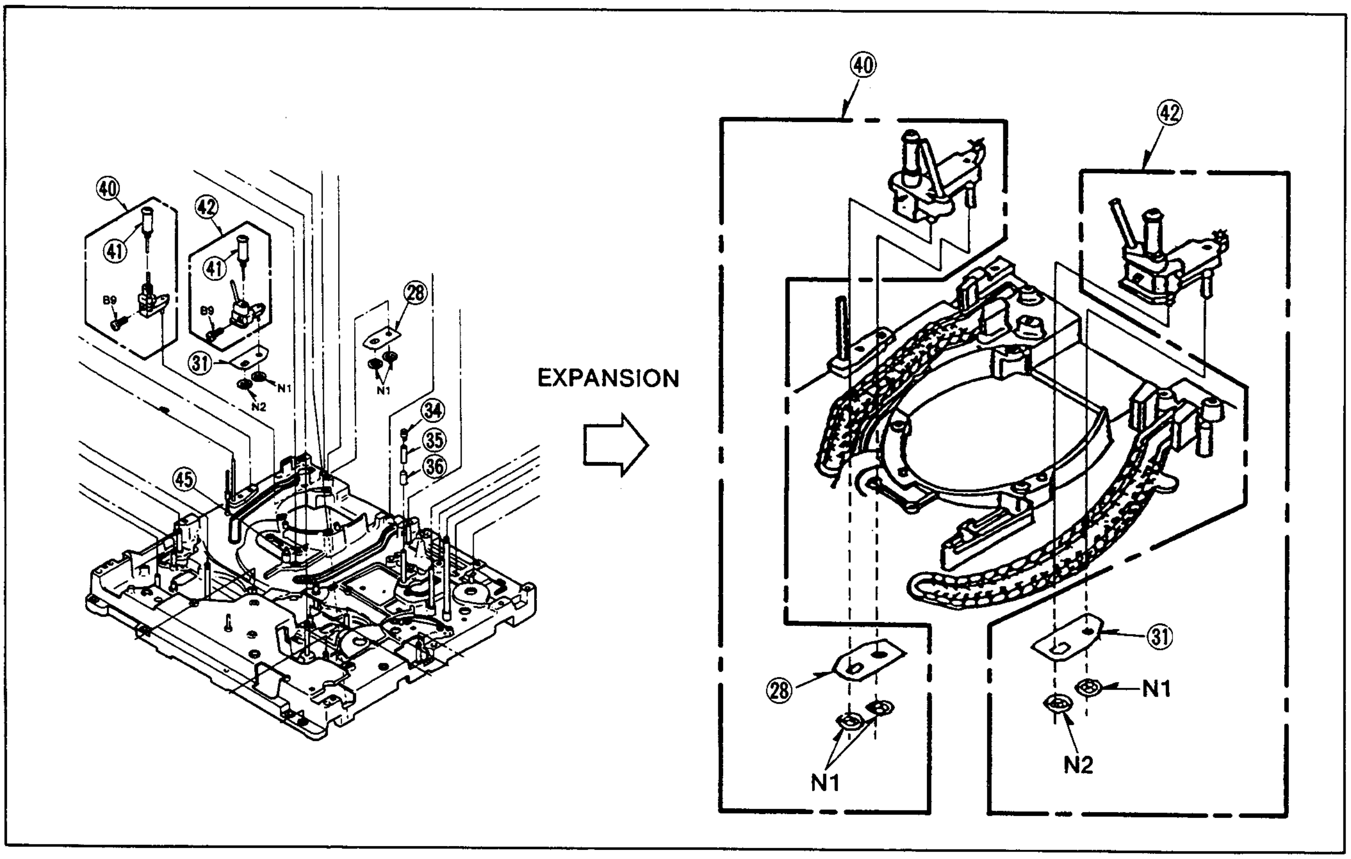
This list shows parts change for SUPPLE 1~3(SUPPLEMENT 1~3). When using or ordering the parts below, refer to this.

Note:(1)Parts indicated by " ▲ " do not have interchangeability.
(2)Parts indicated by " ● " should be used on New Part(SUPPLE1,2 or 3).

Ref.No.	Part Name	Original	SUPPLE1	SUPPLE2	SUPPLE3	
20(1)	A/C HEAD(1) UNIT	VED0182	VED0205			
28(1) ●	INCLINED BASE HOLDER(S)	VMD1937	VMA8874			
31(1) ●	INCLINED BASE HOLDER(T)	VMD1959	VMA8873			
32(1) ●	OPENER PIECE	VMD1960	VMD2101			
37(1)	TENSION RELEASE ARM	VML2772	-------			
40(1) ●	INCLINED BASE(S) UNIT	VXA4801	VXA4982KIT			
40(1) ●	INCLINED BASE(S) UNIT	VXA4982	VXA4982KIT			
41(1) ●	ROLLER POST	VXP1363A	VXP1415			
42(1) ●	INCLINED BASE(T) UNIT	VXA4803	VXA4984KIT			
42(1) ●	INCLINED BASE(T) UNIT	VXA4984	VXA4984KIT			
43(1)	ROLLER POST(T)	VXP1363	-------			
45(1) ●	CASSETTE POSITION FIXTURE	VMS2558	VMS5383			
N1	PUSH HOLDER	-------	VHN0192			
N2	PUSH HOLDER	-------	VHN0193			

SUPPLE1(SUPPLEMENT SERVICE MANUAL) ··· Order No. VRD9305S015

5–2. Exploded Views of Inclined Base (S),(T) Unit


㊵
㊶
B9
㊷
㊶
B9
㉛
N1
N2
㉘
N1
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㉟
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㊺
EXPANSION
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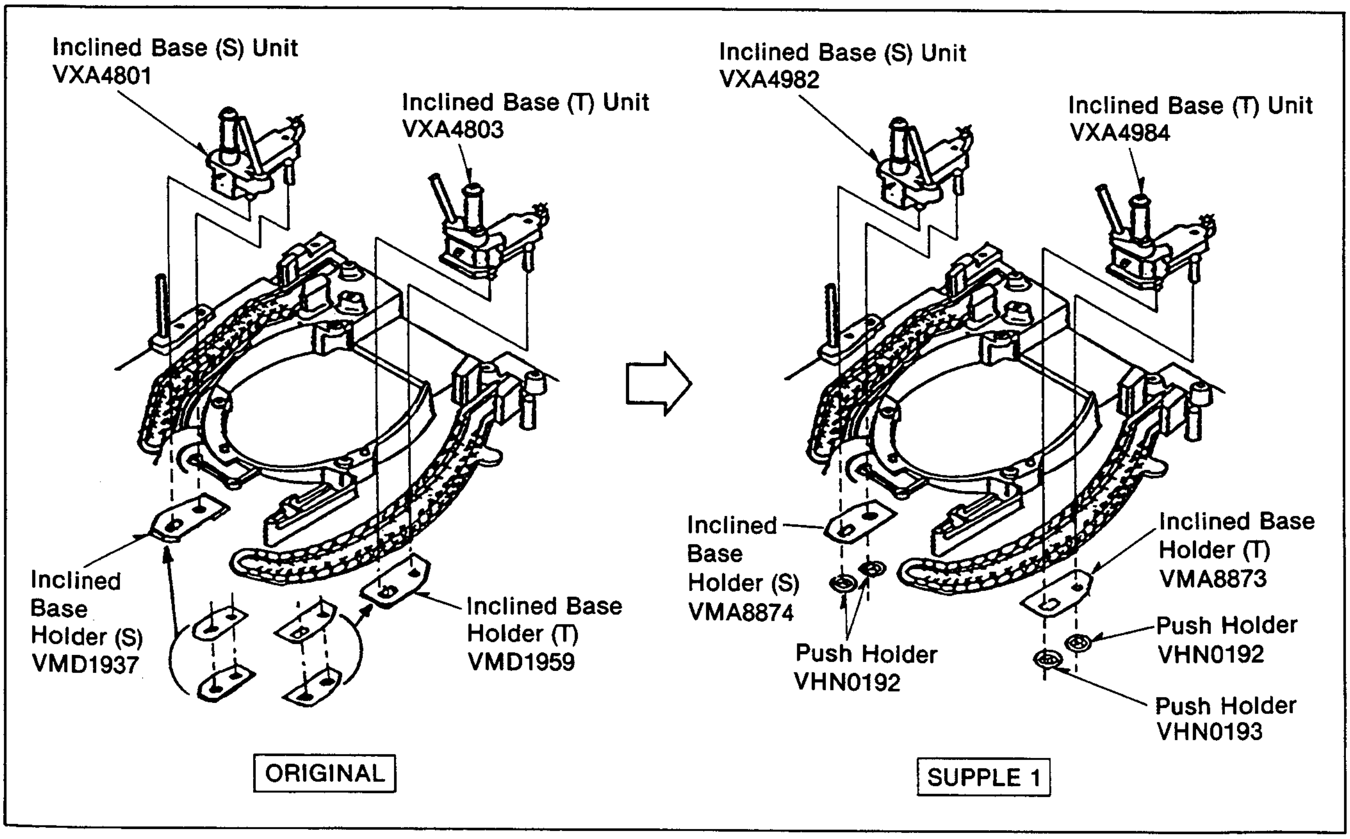
N1
N2
㉘
N1

5–3. Inclined Base (S),(T) Unit Changes


Inclined Base (S) Unit
VXA4801
Inclined Base (T) Unit
VXA4803
Inclined Base Holder (S)
VMD1937
Inclined Base Holder (T)
VMD1959
ORIGINAL
Inclined Base (S) Unit
VXA4982
Inclined Base (T) Unit
VXA4984
Inclined Base Holder (S)
VMA8874
Push Holder
VHN0192
Inclined Base Holder (T)
VMA8873
Push Holder
VHN0192
Push Holder
VHN0193
SUPPLE 1

6. TROUBLE SHOOTING

SYMPTOM	CAUSE/*CHECK POINT
NO SOUND IN SELF RECORD	REPLACE A/C HHEAD *IC600(34)(35) ⇨ OK
TAPE STUCK WHEN EJECTED	TAKE UP BRAKE ARM UNIT(VXZ0313) OFF *TAKE UP REEL NOT ROTATING
NOISY PICTURE IN PLAYBACK	DD CYLINDER CUT LEAD OF LOWER CYLINDER(VEG0987) *RF ENVELOPE DOESN'T APPEAR
CASSETTE BLINDER DOESN'T CLOSE	PHASE ERROR BETWEEN SIDE PLATE & CARRIAGE CONNECTION GEAR(VXA4806 & VDG0871) *VISUALLY CHECK
BAR NOISE IN PLAYBACK	DUST IN INCLINED BASE(VXA4801) *P.B PRE-RECORDED TAPE ⇨ NG SELF-RECORDED TAPE ⇨ OK
NOISY PICTURE IN SELF-REC/P.B	A/C HEAD IS DIRTY *NO CONTROL PULSE
TAPE CHEWED	P5 ARM UNIT BENT, BROKEN P5 STOPPER (VXL2306, VXA2229) *VISUALLY CHECK
THE TAPE DOESN'T LOAD	IDLER CONTROL LEVER(VML2725) NOT INSTALLED CORRECTLY
TAPE RUNNING NOISE WHEN FF	IDLER ARM(VXL2229)

SYMPTOM	CAUSE/*CHECK POINT
NOISY PICTURE IN SELF-REC/P.B(LP)	A/C HEAD DIRTY *NO CONTROL PULSE
TAPE EJECTED INSTANTLY AFTER INSERTING	PHASE ERRER BETWEEN SIDE PLATE & CARRIAGE CONNECTION GEAR(VXA4806 & VDG0871) *VISUALLY CHECK
UNIT IS IN CUE MODE WHEN PLAY BUTTON PRESSED	INCLINED BASE(S), VXA4801 NOT COMPLETELY LOCKED *GREASE TO V STOPPER AND INCLINED BASE
CAN NOT INSERT TAPE	BROKEN HOLDER PLATE LEVER(VXA4661)
TAPE DAMAGE	REPLACE PINCH ROLLER(VXA2246)

Order No. *VRD9305S015*

Service Manual

Supplement

Effective from: *Mentioned in Remarks*

Video Product

Model No. *All K-Mecha. Models*

Subject: *Change of K-Mecha. Parts*

Please use this manual together with the Service Manual
Model No. *All K-Mecha. Models*

The following Parts have been changed to improve the performance of K-Mechanism.

INTERCHANGEABLITY CODE See the I/C column on the following Part Number list

	Parts	Prdctn		Parts	Prdctn		Parts	Prdctn		Parts	Prdctn	E	Addition
A	Orgnl	Early	B	Orgnl	Early	C	Orgnl	Early	D	Orgnl	Early	F	Deletion
	New	Late		New	Late		New	Late		New	Late	G	Other

Parts Number List

Ref. No.	Original Part NO.	New Part No.	Part Name & Description	I/C	Remarks
20(1)	VED0182	VED0205	A/C HEAD(1) UNIT	A	Running Change
28(1)	VMD1937	VMA8874	INCLINED BASE HOLDER(S)	C	First Production
31(1)	VMD1959	VMA8873	INCLINED BASE HOLDER(T)	C	First Production
32(1)	VMD1960	VMD2101	OPENER PIECE	C	First Production
37(1)	VML2772	------	TENSION RELEASE ARM	F	First Production
40(1)	VXA4801	VXA4982KIT	INCLINED BASE(S) UNIT	C	First Production
40(1)	VXA4982	VXA4982KIT	INCLINED BASE(S) UNIT	C	First Production
41(1)	VXP1363A	VXP1415	ROLLER POST	C	First Production
42(1)	VXA4803	VXA4984KIT	INCLINED BASE(T) UNIT	C	First Production
42(1)	VXA4984	VXA4984KIT	INCLINED BASE(T) UNIT	C	First Production
43(1)	VXP1363	------	ROLLER POST(T)	F	First Production
45(1)	VMS2558	VMS5383	CASSETTE POSITION FIXTURE	C	First Production
N1	------	VHN0192	PUSH HOLDER	E	First Production
N2	------	VHN0193	PUSH HOLDER	E	First Production

(*)Refer to the Exploded View on the other side of this page.

Panasonic

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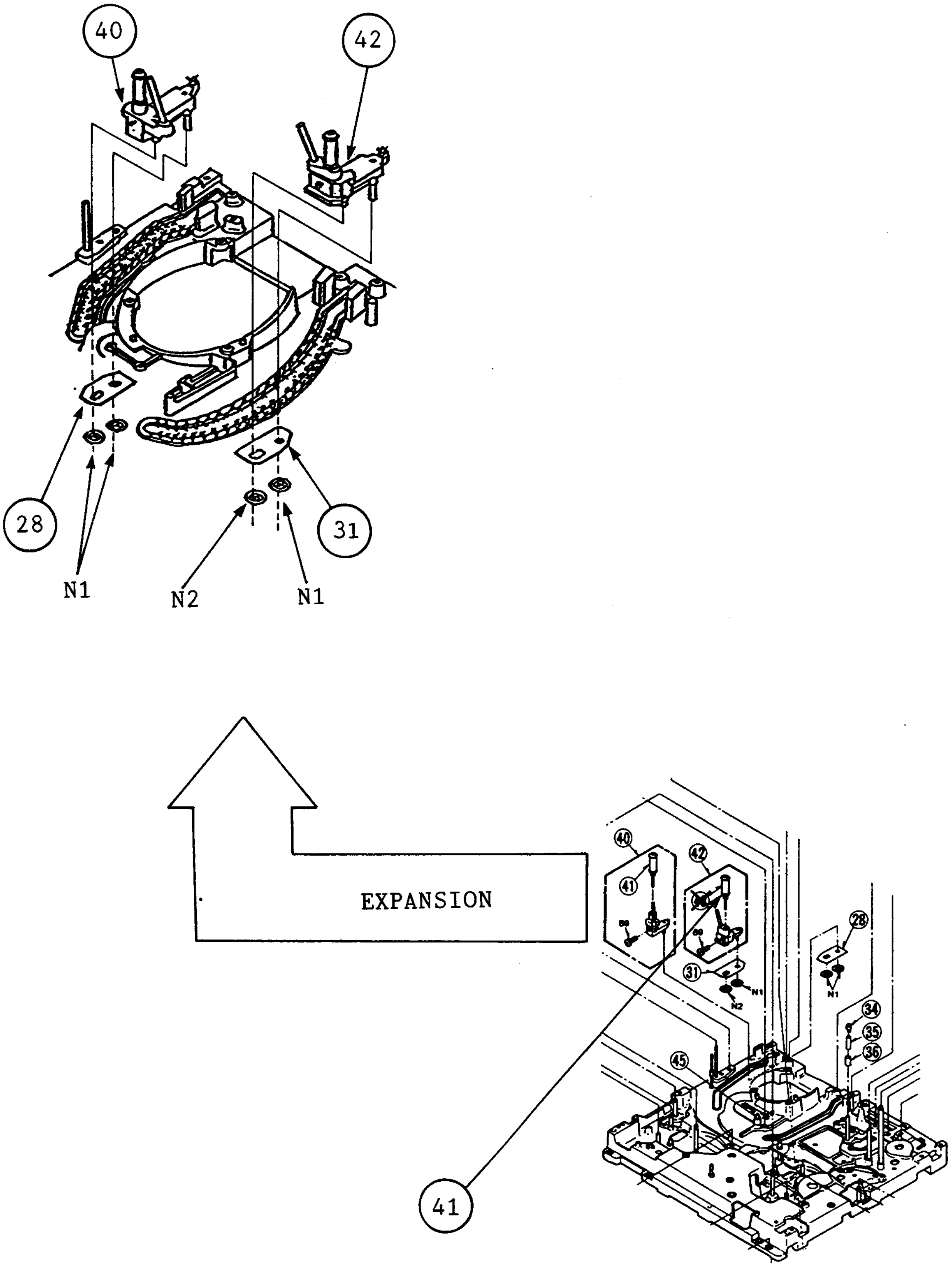
[Exploded Views of Inclined Base(S),(T) Unit]


40
42
28
N1
N2
N1
31
EXPANSION
40
41
42
31
N2
N1
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N1
34
35
36
45
41